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OPTIMIZING EARLY RETIREMENT DECISIONS

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in partial fullfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE

by

ROBERT S. GUARINO, MAJ, USA

B.A., United States Military Academy, West Point, New York, 1982

M.B.A., Florida Institute of Technology, Melbourne, Florida, 1990

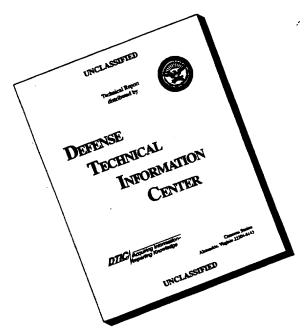
M.S., Naval Postgraduate School, Moneterey, California, 1993

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

OPTIMIZING EARLY RETIREMENT DECISIONS by MAJ Robert S. Guarino, USA, 64 pages.

The military retirement system is designed to allow the services to encourage the right amount of skilled professional service members to serve in the military. The U.S. Army's early retirement program is a temporary one designed to allow some soldiers to leave the service prior to 20 years of service, to reduce the Army's operating budget without destroying morale. No widespread tool is available for an officer to decide if he should retire between 15 to 20 years of service. It is suspected that many soldiers make this important decision based on instinct. This thesis provides an analysis of whether it makes financial sense for an officer to select early retirement. A spreadsheet formulation is developed and used to indicate if and when an officer should select early retirement. The program investigates the decision at various civilian salary levels and various assumed discount rates.

TABLE OF CONTENTS

<u>Page</u>	
APPROVAL PAGE	
ABSTRACT	
CHAPTER	
I. INTRODUCTION	
II. LITERATURE REVIEW	
III. SPREADSHEET FORMULATION	
IV. COMPUTATIONAL EXPERIENCE	
V. CONCLUSIONS/RECOMMENDATIONS	
ENDNOTES	
APPENDIX	
A. ASSUMPTIONS	
B. DATA	
C. RESULTS	
D. DECISION MATRICES 60	
BIBLIOGRAPHY	
INITIAL DISTRIBUTION LIST	

CHAPTER I

INTRODUCTION

The United States All-Volunteer Army

The United States Army is responsible for maintaining the size of the Army in accordance with Congressional legislation. A variety of programs are designed to meet this target, while maintaining a well-equipped, trained, and motivated force. The morale or motivation of the force is especially important today because the Army is "all-volunteer".

The legislated reduction of the all-volunteer Army could have devastating impact on the morale of the soldiers. The major concern is that soldiers' morale will suffer as they witness more senior soldiers being forced out of the service without adequate compensation.

The Army developed three incentive programs to preclude this from occurring while the drawdown continues. These are the Voluntary Separation Incentive (VSI), the Special Separation Benefit (SSB), and the Early Retirement System. The purpose of the incentive programs is to allow voluntary departure from service to the maximum extent possible, while ensuring that the right mix of skilled personnel remain in the Army. The incentive programs appear to work well, insuring that morale does not suffer due to the drawdown.

The VSI and SSB programs offer monetary incentives to soldiers who are not yet retirement eligible but voluntarily depart from service.

They are not the subject of this thesis.

Normally, the military only allows retirement after 20 years of service. However, in 1992, the Army implemented the early retirement system. 1 It allows Army officers and noncommissioned officers, with certain skills or branches to retire between 15 and 20 years of service.

While the early retirement program has helped meet the Army's goals for the drawdown, soldiers often debate the wisdom of early retirement. To date, there have been no definitive guidelines or tools for the soldier to use to assess the financial incentives of the program. In other words, while soldiers continue to make decisions about early retirement, no one is sure what procedures they ought to use to help make the decision. Perhaps most soldiers make their decisions based on instinct. Such a decision-making process may not be in the soldiers' best interests.

This thesis develops an approach to determine the optimal time for a representative candidate to select early retirement. The present chapter begins with an overview of the major components of the Military Compensation System, the Military Retirement System, and the Early Retirement System.

Military Compensation System

The military compensation system is continuously reviewed and adjusted by Congress. Some pertinent aspects of the system are discussed below.

The goal of the military retirement system is the retention of a high-quality, trained, and ready force. Factors influencing the system include recruiting requirements, legislated troop ceilings,

promotion policies, and retirement benefit computations.² The system must be attractive enough for new soldiers to join the service, for midterm reenlistments to remain high, and for the best soldiers to make the service a career.

Six principles underlie the military compensation system:

- 1. Compensation supports the personnel management system by rewarding advancement and longevity.
- 2. The system is considered the most efficient and least cost method to attract and retain the people the service wants.
- 3. The pay is equitable throughout the services and is comparable and competitive to private sector employment.
 - 4. The system must work in both peace and war.
- 5. It must be rapidly adaptable to changing technology and labor markets and provide quick and fair adjustments.
- 6. The system must motivate by rewarding superior performance with advancement and pay. 3

Military Retirement System

The military retirement system is but one portion of the overall military compensation system. At first glance, it seems straightforward and simple. However, this is not the case; it is complex, multifaceted and dynamic.

The military retirement system has some characteristics that differ from civilian and other government retirement systems. First, the employer (US Government), and not the service member makes the contribution to retirement. Vesting is offered to career soldiers only. The benefits therefore are not 100% portable to the civil service or

private sector. Retirees also are subject to recall in time of war. The military retirement system is closed, allowing no lateral entry transfers. It effectively "buys youth and vigor, permitting member separation when the soldier is too old to be militarily useful."

Currently, there are soldiers serving under three different programs within the military retirement system. These are the traditional, high-three, and redux programs.

- 1. Traditional: Soldiers who entered active duty prior to 8 September 1980, receive 2.5% of their terminal basic pay, times the number of years of service. This yields 50% of the basic pay at 20 years of service. The program has full annual Consumer Price Index (CPI) adjustments. It is referred to as the traditional program.
- 2. High Three: Soldiers who entered active duty after 8
 September 1980, but before 30 July 1986, are under the high-three
 program. They receive 2.5% of the average of their highest three years
 of basic pay, times the number of years of service. This yields 50% of
 the basic pay at 20 years of service, but is not computed on terminal
 basic pay. The program has full annual CPI adjustments.
- 3. Redux: Soldiers who entered active duty after 30 July 1986, are under the redux program. They receive 2.5% of the average of their highest three years of basic pay, times the number of years of service, minus 1% for each year less than 30. This yields 40% of the basic pay at 20 years of service, but is not computed on terminal basic pay. The program has annual CPI adjustments minus one point for each year until age 62. At age 62, a one-time catchup of the full CPI is allowed. After age 62, the CPI minus one point continues.

There is a myth concerning 20-year retirements that needs to be addressed. The 20-year retirement is not automatic. By law, officers have the right to retire with 40 years of service (30 for enlisted). Only with the permission of the Service Secretary can soldiers retire with 20 years of service. Service Secretaries normally do not grant this permission in time of war.⁵

The 20-year retirement may not be as appealing as it seems at first glance. Retired pay is calculated as a percentage of basic pay alone. The calculations exclude all allowances, such as housing and incentive pay. Therefore retired pay equals about 36% of active duty compensation for 20-year retirees (57% for 30-year retirees). In fact, most retirees must find another job upon retirement. Furthermore, the retiree is subject to recall.

Early Retirement Program

The early retirement program is but one portion of the overall military retirement system. It started in 1992, when Congress authorized it as a temporary force management tool to assist with the drawdown⁷. It is not planned to be in place for long (it must be reauthorized each year by Congress, as it has since 1992).

A brief overview of the benefits of the program follows. First, it is a retirement program with full medical, exchange, and other lifetime benefits after service ends. Early retirees receive 2.5% of the average of their highest three years of basic pay, times the number of years of service; minus 1% of this figure for each year less than 20. For example, this amounts to 35.625 percent (.025 x 15 = .375; .375 x .95 = .35625) of the basic pay at 15 years of service (up to 50% at 20

years of service), but is not computed on terminal basic pay. For this thesis we assume the "Traditional" program is in effect. This is because the majority of soldiers being offered early retirement in the near future are soldiers who entered active duty before 8 September, 1980.

Utility of Thesis

This thesis will assist mid-grade officers by allowing them to include quantitative analysis in their retirement planning. At the very least, it may help officers make difficult retirement decisions.

Problem Statement

The Army officer (for whom the "Traditional" program is in effect) would like to know what is the best time to accept early retirement, from the officer's point of view, in terms of pay and allowances.

Overview of Thesis

This thesis provides a case study and tool to analyze the optimal time for a candidate to select early retirement. Due to time and space constraints, it will consider only the soldier's point of view. It will also be limited by the assumptions listed in appendix A.

A similar analysis could be done from the Army's point of view, from an enlisted point of view (with updated data), and from many other perspectives. These are left for future research efforts.

This thesis provides a tool for determining the optimal time for a soldier to retire. Chapter II surveys related literature for similar financial incentive programs and studies. Chapter III presents

an outline of a spreadsheet formulation used to find the retirement time which maximizes lifetime earnings. It is designed for the non-mathematician reader, and has a few examples. Using the formulation of Chapter III, computational performance and sensitivity analysis for a variety of operational scenarios are listed in Chapter IV. Chapter V provides conclusions and recommendations. Appendix A contains a list of assumptions. Appendix B contains data used in the spreadsheet formulation. Appendix C contains the results of spreadsheet calculations. Appendix D contains two decision matrices.

CHAPTER II

LITERATURE REVIEW

The literature related to military retirement and other compensation systems is extensive. It concerns the evolution of the system, potential future financial problems, and receptiveness to changes in the retirement systems. There is literature concerning the expected value of military retirements, when officers should retire, and a variety of suggestions for alternative retirement plans. However, none of the research provides evidence of any tool that helps officers determine the optimal time to retire prior to 20 years of service.

Retirement Program History and Future Costs

David L. Oles traced the alteration of the military retirement system from a disability pension to a retired and retainer pay for a career in the military. His report was in response to a congressional proposal to expand the eligibility criteria for the early retirement program (circa 1991). The report concluded expanding the criteria would increase voluntary separations.

In 1984, C. M. Murray analyzed the long-term, increasing costs of the military retirement system. Problems with increased retirement costs, due to increased life expectancy, were projected. Budgetary problems predicted by Murray may only be exacerbated by the early retirement system.

As far back as 1975, projections of budgetary problems associated with the military retirement system were predicted. Richard E. Holladay analyzed the expected budgetary increases by extrapolating present trends into the future. 10 As a result of the extrapolation process he projected severe future fiscal burdens. This was primarily due to expanded numbers of military retirees with longer life expectancies. In response to his projections he recommended that only 30 year retirements be granted (1975). This would reduce the projected fiscal burdens.

J. D. Medlin analyzed the military retirement benefits (1984), concluding that their benefits should be modified because they were too generous. ¹¹ In particular, he felt that long-term incentives should be replaced by short-term incentives (such as increased early retirement payments) to reduce overall taxpayer costs.

While the aforementioned studies predicted future budgetary problems with the old retirement system, no one seems to have acted on the recommendations. Instead, the retirement programs and eligibility for them have been expanded to include, in some cases, 15-year retirements. The reasons for this development may have more to do with politics than budgetary considerations. However, an investigation as to why this expansion developed is not the focus of this thesis.

Alterations to Retirement Programs

Some additional studies assessing the impact of alterations in the retirement system were conducted. Ralph Miller Rikard conducted surveys (1980) and determined that officers were receptive to changes in the military retirement systems. 12 He concluded that retention would

not suffer under a variety of programs. However, his conclusions were drawn during the Cold War and might not be pertinent today.

In 1979, William Cotesworth Keller developed a system for rating officer's views of various retirement programs. This tool would help quantify the perceptions service members had about various military retirement programs. The technique he used consisted of factoring various retirement proposals into common characteristics, ranking and weighting each characteristic, and computing a relative weighted preference for each plan. He recommended his survey and rating system be expanded to include a sample of the entire military population. This might help the military to choose between alternative proposed retirement systems.

In 1977, Michael F. Carpenter developed a model which attempted to quantify the monetary savings for alternative retirement programs. His model also attempted to assess the costs to the personnel system for these programs. He found that changes in the retirement benefits may result in significant changes in retention patterns, such as reduced retention of lower grade personnel. These changes could have associated turnover costs that exceed any savings resulting from reduced retirement benefits.

Robert D. Merkl conducted an analysis of the changes in force composition resulting from the changes in the military retirement system (1988). He found that reductions in compensation could devastate Army retention, leading to a younger, less experienced and educated force. He suggested and evaluated a lump sum payment option, in lieu of current retirement options. He concluded that the lump sum option could result

in significant savings for the government, while helping to maintain the required force structure for the Army.

In general, these studies warned that any reductions in the military retirement system would have unintended consequences. These would primarily affect the personnel system. Past experience may have also taught the military that mandatory reductions in force have a negative impact on morale (similar to that which was predicted with alterations in the retirement system). This may be one of the reasons that the current military drawdown is being completed with the use of new incentive programs (such as the VSI, SSB, and early retirements).

When to Retire

Richard V. Cooper analyzed military retirees' post-service earnings (1981). 16 He concluded that military officer retirees earn less than their civilian counterparts. However, this is almost entirely a function of the amount of work the retirees are willing to perform. Military officer retirees who work full-time earn about as much as their civilian counterparts, but those who work less time earn about 25% less than their full-time civilian counterparts. His study did not address the early retirement system in place today.

Concerning when an officer should retire, Glenn G. Sherwood recommended officers retire as early as possible and invest their retirement checks to maximize financial benefits (1972). His report was based on an analysis of finances for officers who could retire any time after 20 years of service.

Although the aforementioned literature provides useful information to consider for the development of the model used in this

thesis, none of it used data from the current early retirement program. Also, none of the literature analyzed retirement decisions for officers with less than 20 years of service. This thesis is an attempt to analyze the current early retirement system with current data.

CHAPTER III

SPREADSHEET FORMULATION

Data Structure

This chapter presents an outline of a spreadsheet formulation used to find the retirement time that maximizes lifetime earnings. It contains hypothetical earnings for a major with 15 years of service, from the ages 35 through 70. It reflects the structure of the data available in Army financial records. The Army pays its soldiers monthly (although pay is sometimes distributed biweekly). All of the input data to include civilian pay were consolidated into monthly payments.

A complete list of assumptions used to structure the formulation and limit its size is included in appendix A. The rationale behind each assumption is also included.

The spreadsheet formulation models a soldier's financial situation with maximization of lifetime earnings as the objective.

Total earnings for this model consist of the present value of all compensation (military pay, military retired pay, and civilian wages), active duty military housing, and other allowances (basic allowance for subsistence). Data tables for the components of total earnings (military pay, military retired pay, civilian wages, housing, and other allowances) are included in appendix B.

The values included in each of the abbreviated data tables are not discounted. However, present value discount factors were applied to the values before they were consolidated in the spreadsheet formulation. This was accomplished by dividing by the given discount rate, compounded for the number of years past the 15 years of service date.

Military Pay

They show before tax income. Individual users of this model may adjust the monthly pay amount to reflect their own expectations for tax and other deductions (see appendix A, Assumption #8).

If the soldier elects to retire at 15 years of service (MonthO in the table refers to 15 years and zero months of service), he will receive his military pay for the prior month, on the first day of that month. He will get \$3,881 on that day. This figure is the monthly basic pay for a major with 15 years of service. However, he will receive no more military pay. So he receives the stream of payments of \$0.00 reflected in the first column of data (from Month1 to Month420-when he is 70 years old). The first column of data reflects the military pay stream he can expect if he retires at 15 years of service.

If he retires at 15 years and 1 month of service (Month1), he can expect 2 payments of military pay of \$3,881, and 419 months of no military pay. The second column of data reflects the military pay stream he can expect if he retires at 15 years and one month. This pattern continues until the last column of data, which reflects his pay if he retires at 20 years (Month60 or 15 years and 60 months).

The \$3,881 he receives at 15 years of service remains the same until he reaches 16 years of service. Then, he receives an increase in pay that reflects the raise received for 16 years of service (\$4052). The data in this table reflect increases in pay at 16 and 18 years of service due to longevity, and an increase in pay at 17 years due to promotion to lieutenant colonel.

The actual table used in the formulation is 61 columns wide and 421 rows long. This is too large to include as an appendix. The abbreviated military pay table is included only as a guide. Similar abbreviated pay tables are included for military allowances, military retired pay, and civilian pay.

Military Allowance Pay

The data used for the military allowance pay are presented in appendix B. If the soldier elects to retire at 15 years of service, he will receive his military allowance pay (\$943) for the prior month on the first day of that month. This is the monthly basic allowance for quarters, plus an assumed variable housing allowance (\$200), for a major with 15 years of service. However, he will receive no further military allowance pay. Thus, the structure of the military allowance pay data parallels the structure of the military pay data.

Military Retired Pay

The data used for military retired pay are presented in appendix B. Once again, the values are before tax income. If the soldier elects to retire at 15 years of service, he will receive no military retired pay on the first day of that month. However, at the

end of the first month of retirement he will get \$1,383. This is the monthly basic pay for a major with 15 years of service, multiplied by .35625 (that is, $$3,881 \times .35625 = $1,383$).

After receiving no military retired pay at 15 years of service, he will begin receiving \$1,383 in monthly military retired pay the next month. The first column of data reflects the military retired pay stream he can expect through age 70, if he retires at 15 years of service.

If he retires at 15 years and 1 month, he can expect 2 months of military retired pay of 0 and 419 months of 1,392 in military retired pay $3,881 \times .35854 = 1,392$. The second column reflects the military retired pay stream he can expect if he retires at 15 years and one month. This pattern continues until the last column, which reflects his pay if he retires at 20 years (15 years and 60 months).

Notice that whatever the initial military retired payment is, it remains the same until he reaches 70 years of age. This is because the retired pay multiple is a percentage of basic pay, calculated only once. The only adjustments to the data are that they were discounted to their present values before they were added to other types of pay. There were no adjustments for inflation or cost of living.

Civilian Pay

The data used for civilian pay are presented in appendix B.

The values are before tax income. If the soldier elects to retire at 15 years of service, he will receive no civilian pay on the first day of that month. However, at the end of the first month of retirement he

will get \$833. This figure is the monthly civilian pay he can expect if he is to earn \$10,000 a year.

The data in this table have the same structure as military retired pay. If the officer retires at 15 years, he will receive \$833 in monthly civilian pay until he is 70 years old. The first column of data reflects the civilian pay stream he can expect if he retires at 15 years. The second column reflects the civilian pay stream he can expect if he retires at 15 years and one month. This pattern continues until the last column. In this formulation, civilian pay remains the same until he reaches 70 years of age. A user could, however, adjust the model to reflect different assumptions about the civilian pay stream.

Ten thousand dollars was chosen as a base figure for ease of calculation when civilian salaries were adjusted. When the data are summed between tables, the civilian pay data were adjusted to be multiples of the \$10,000 annual figure. For example, all data were multiplied by .5 to obtain the civilian pay data for an officer who could only earn \$5,000 in annual civilian pay. Adjustments were made to obtain civilian pay data for pay ranging from \$5,000 to \$120,000 (in increments of \$5,000). The only other adjustments to the data are that they were discounted to their present value before being added to other types of pay.

Formulation

The spreadsheet formulation maximizes the sum of payments expected over the next 35 years of a soldier's life. The payment streams for military pay, military allowances, military retired pay, and civilian salary are discounted to present values by dividing by the

discount rate each year. Discount rates vary from 4%, 8%, and 12%. The civilian pay data are adjusted to obtain values ranging from \$5,000 to \$120,000 (in increments of \$5,000).

This stream of payments is summed up from the fifteenth year of service until the soldier reaches 70 years of age. The results of the calculations for each particular discount rate and each civilian pay rate are included in appendix C. These figures are compared to each other. For each assumed civilian pay level and discount rate, one month is selected as the optimal month to retire.

CHAPTER IV

COMPUTATIONAL EXPERIENCE

Examples

For these examples the reader should refer to appendix C, which contains the summation of payment streams for each assumed discount rate and civilian pay level. The first table lists the amount a soldier earns if he selects a discount rate of 4%. Similar tables are included in appendix C for discount rates of 8% and 12%.

Suppose a soldier accepts a discount rate of 4% over the remainder of his life, and assumes that he can make \$30,000 in annual civilian wages through age 70. Appendix C indicates that this soldier will make \$908,841 (at present value) if he retires at 15 years of service. He will also make \$911,871 if he retires at 15 years and 1 month. This pattern continues (across the \$30,000 row of the table) until the soldier can make \$1,157,650 if he retires at year 20 (15 years and 60 months). Each soldier should select the month to retire that maximizes his lifetime total payments, according to the assumed discount rate and civilian pay level. In this case, the maximum lifetime income occurs if he retires at 20 years of service.

Now suppose the soldier selects an 8% discount rate, and assumes that he can make \$70,000 in annual civilian wages through age 70. Appendix C, indicates that this soldier will make \$1,094,298 if he

retires at 15 years of service. He will also make \$1,093,258 if he retires at 15 years and 1 month. This pattern continues (across the \$70,000 row of the table) until the soldier can make \$1,089,892 if he retires at year 20 (15 years and 60 months). However, at just after 18 years of service (15 years and 37 months), the soldier reaches his maximum payments of \$1,102,117 (at present value). Thus, he should retire at just over 18 years of service.

A consolidated listing of the optimal times to retire for similar examples is included in table 1. There is a definite pattern to the early retirement decisions suggested by table 1. The lower the discount rate, the higher the civilian pay must be before it makes any sense to retire before 20 years of service. Another pattern is that it most often makes sense to retire at 15, 18 or 20 years of service. These retirement recommendations reflect the military pay structure (which gives a raise at 18 years of service), and the structure of the formulation (which has a minimum of 15, and a maximum of 20 years of service).

Table I Optimal Month to Retire, After 15 Years of Service

			I	SCC	TNUC	RATES			
CIVILIAN	.01	.02	.03	.04	.05	.06	.07	.08	.12
SALARY									
\$5,000	60	60	60	60	60	60	60	60	60
\$10,000	60	60	60	60	60	60	60	60	60
\$15,000	60	60	60	60	60	60	60	60	60
\$20,000	60	60	60	60	60	60	60	60	60
\$25,000	60	60	60	60	60	60	60	60	60
\$30,000	60	60	60	60	60	60	60	60 60	60 60
\$35,000	60	60	60	60	60	60	60	60	60
\$40,000	60	60	60	60	60	60	60	60	60
\$45,000	60	60	60	60	60	60	60	60	60
\$50,000	60	60	60	60	60	60	60 60	60	55
\$55,000	60	60	60	60	60	60 60	60	59	36
\$60,000	60	60	60	60	60 60	56	39	37	0
\$65,000	60	60	60	60 59	39	37	37	37	0
\$70,000	60	60	60 56	37	37	37	37	0	Ö
\$75,000	60 60	60 51	37	37	37	37	0	Ö	ŏ
\$80,000	56	37	37	37	0	0	Ö	0	ŏ
\$85,000 \$90,000	37	37	37	37	0	Ö	Õ	Ö	ŏ
\$95,000	37	37	37	0	Ö	Ö	Õ	Ö	Ö
\$100,000	37	37	0	Õ	Ö	ŏ	Õ	Ö	0
\$105,000	37	37	Ö	Ö	Õ	Ö	Ō	Ō	0
\$110,000	37	0	Ö	Õ	Ö	ŏ	Ö	Ō	0
\$115,000	37	Õ	Õ	Ō	Ō	Ō	0	0	0
\$120,000	Ő	0	Ö	Ō	0	0	0	0	0
7220,000	•	•	•		_				

Table 1 should be used only when a soldier assumes he will earn a uniform civilian salary until the age of 70. If the soldier believes his civilian pay level will fluctuate as a result of the experience he gains by staying on active duty, table 1 should not be used. For this type of scenario (where a soldier expects a fluctuating civilian pay level), the reader should refer to the data in appendix C.

An example would be helpful. Suppose a soldier selects a discount rate of 12%, and assumes that he can make \$40,000 in annual civilian wages through age 70 if he retires at 15 years of service.

However, he assumes that his skills will increase with his military experience and that he can make \$50,000 in annual civilian wages if he remains until 16 years of service. He can also make \$60,000, \$70,000, \$80,000 and \$90,000 if he retires at 17, 18, 19, and 20 years, respectively.

Appendix C indicates that this soldier will make \$522,792 (at present value) if he retires at 15 years of service (figure obtained by the intersection of the \$40,000 row and MonthO column, in the .12 discount rate table). He could similarly retire at 16 years of service and earn \$616,203 (figure obtained by the intersection of the \$50,000 row and Month12 column, in the .12 discount rate table). Similarly, retiring at years 17, 18, 19 and 20 would result in lifetime earnings of \$697,419 (\$60,000/Month24), \$771,987 (\$70,000/Month36), \$828,983 (\$80,000/Month48), and \$864,686 (\$90,000/Month60), respectively.

For this example, the best time to retire is at 20 years. The present value of his lifetime earnings will be \$864,686. The soldier should retire whenever the maximum lifetime income is projected for any of his options.

Similar scenarios where a soldier expects a fluctuating civilian pay level can be analyzed in similar fashion. Even scenarios where the soldier will expect decreasing civilian pay levels as he remains on active duty can be analyzed in this fashion. The soldier should be sure always to select the maximum payment he can receive for any time up to the time he retires, as the number to use for comparison purposes.

Sensitivity Analysis

The results outlined above already include some sensitivity analysis. Variations in discount rate and civilian pay can be used as adjustments from the particular figures the soldier considers applicable to his situation. He may be able to determine how much more he needs to be paid to alter his decision to retire.

Instead of varying such factors as the pay table data, the retirement multiples, and other data, this section will focus on an analysis of intangible factors that affect a soldier's decision to retire. In this analysis, factors to be considered in addition to pay and allowances include career satisfaction, risk aversion, and safety/security of family. Different soldiers may select different factors to assist in their decision-making process. The ones used here provide the reader an illustrative example that can be adapted to the soldier's individual situation.

Decision Matrix Example I

An appropriate tool for analyzing the effects these factors have on retirement decisions is the decision matrix. This allows the user to make decisions when there are multiple criteria and differing weight values for each criterion. 18

The first decision matrix in appendix D has four criteria (pay and allowances, career satisfaction, risk aversion, and safety/security). Each criterion is given a subjective weight based on the soldier's assessment of its relative importance. The six candidate strategies are to retire at year 15, 16, 17, 18, 19 or 20. The

objective is to select the optimum strategy, "based on an abstract measure of utility." 18

For this example the soldier assumes a discount rate of .04 and civilian pay of \$50,000. Appendix C lists the payments a soldier can receive if he retires at years 15 through 20. If the soldier retires with 15 years of service he receives \$1,296,910 (the .04 discount rate table, with \$50,000 salary and MonthO). For retirement decisions at years 16, 17, 18, 19, and 20, the soldier receives \$1,312,083, \$1,342,147, \$1,392,905, \$1,435,160 and \$1,453,158, respectively. Thus, the decision to retire at 20 years is "best, and it therefore receives the rank value of one in the decision matrix. In sequence the years 19, 18, 17, 16, 15 receive rank values of 2, 3, 4, 5, and 6, respectively.

Career satisfaction relates to a variety of intangibles that contribute to a soldier's feeling of value and potential for professional progression. It includes such things as level of responsibility, potential for reward, public recognition, and selfesteem. For this example, the soldier has wanted to be a soldier all of his life. He feels a military career is the only one worth having. The decision to retire at 20 years is "best," and it therefore receives the rank value of 1 in the decision matrix. In sequence the years 19, 18, 17, 16, 15 receive rank values of 2, 3, 4, 5, and 6, respectively.

Risk aversion relates to a variety of intangibles that contribute to a soldier's feeling of uncertainty concerning future employment, steadiness of compensation, and potential for overseas assignments. These intangibles can be in conflict: for example, a

soldier may not want to serve overseas but has a need for steady income. For the present example the soldier is a risk taker with respect to future employment and compensation. He feels he can get good employment anytime and anywhere he wants, but he does not want to go overseas. He places little value on the steady pay offered by the military. Thus, the decision to retire at 15 years is "best," and it therefore receives the rank value of 1 in the decision matrix. In sequence the years 16, 17, 18, 19, and 20 are ranked of 2, 3, 4, 5, and 6, respectively.

Safety and security relate to a variety of intangibles that contribute to a soldier's feeling of physical and emotional security. These include such things as medical benefits, safe community, safe occupation, and family and marital pressures. These intangibles also can be in conflict. For this example, the soldier places little value on the military's medical benefits. He lives in substandard housing, his job is dangerous, and puts considerable strain on his family. The decision to retire at 15 years is "best," and it therefore receives the rank value of 1 in the decision matrix. In sequence the years 16, 17, 18, 19, and 20 receive values of 2, 3, 4, 5, and 6, respectively.

The weight selection process is of paramount importance to a decision matrix, and is a very difficult process for several reasons.

First, often there is no known measurable objective relationship between criteria. Second, since the weights are designed to magnify differences, they should be sensitive to the actual range of values for each criterion. Often they are not. Third, with the same criteria, it is likely that different individuals would weight them differently. This may be due to different perceptions, tastes, and knowledge.

For the present example, the soldier feels that his most important criterion is safety and security. He places twice as much importance on safety and security as on compensation. He also feels compensation is 3 times more important than both risk aversion and career satisfaction. Thus, the decision matrix criterion of pay and allowances, career satisfaction, risk aversion, and safety/security receive weights of 3, 1, 1, and 6, respectively.

Multiplying the weights by the values in the decision matrix gives weighted rank sums of 31, 32, 37, 40, 41 and 42, for retirement decisions of 15, 16, 17, 18, 19 and 20 years, respectively. Since less is better for this decision matrix, the soldier should retire at 15 years of service.

Decision Matrix Example II

Now suppose the soldier has the same criteria as listed in the above example. However, he places different levels of importance on each criterion. This is because he places more importance on pay.

Since he has no family, safety is not a major concern for him.

The second decision matrix in appendix D reflects this soldier's situation. Pay is four times as important as career satisfaction, risk aversion and safety (which are equally important for this soldier). The weight factors are 4, 1, 1, and 1, respectively.

He has the same assumed discount rate and civilian pay as the prior example. Thus, the rankings are the same.

He feels that a military career is not very exciting. For him, it is merely a method to obtain money. There is actually

decreasing career satisfaction past 15 years of service. Thus, career satisfaction has reversed rankings from the previous example.

Risk aversion, and safety/security have the same rankings as in the previous example.

Multiplying the weights by the values in the decision matrix gives weighted rank sums of 27, 26, 25, 24, 23 and 22, for retirement decisions of 15, 16, 17, 18, 19 and 20 years, respectively. Since less is better for this decision matrix, the soldier should retire at 20 years of service.

These are not the only criteria soldiers might use to make a decision.

Different soldiers will have different criteria, different rankings and different weights for their particular situation.

Other, more refined procedures, such as the Analytical Hierarchy Process (AHP), ¹⁹ Techniques for Order Preference by Similarity to Ideal Solution (TOPSIS), ²⁰ or Multiattribute Utility Theory ²¹ are available for those who want to carry the decision analysis beyond the level of detail provided by the rank-weighting method discussed in this section.

CHAPTER V

CONCLUSIONS/RECOMMENDATIONS

This thesis developed a spreadsheet formulation to determine the optimal time for a soldier to retire. The results (table 1) indicate that soldiers should stay in the service until 20 years of service, unless they can earn civilian pay of at least \$55,000 a year (for discount rates 12% and below). In fact, soldiers should probably earn at least \$70,000 a year to get out before 20 years of service, considering more reasonable discount rates of 4 to 5%. It almost always makes financial sense to get out of the service before 20 years, if the soldier can earn at least \$85,000 a year. If a soldier can earn \$120,000 a year, he should retire at 15 years of service, with no concern for future discount rates. If the soldier assumes a discount rate of 4%, he should retire at 18 years of service, if he can earn \$75,000-\$90,000.

All of the conclusions reached above rely on a constant civilian pay rate and on compensation as the only decision criterion. Fluctuating civilian pay rates and inclusion of other decision criteria make the retirement decision process more complicated. The methodology outlined in chapters III and IV should be used to assess specific situations.

Recommendations for future research include investigations that relax any of the assumptions in appendix A. For example, a study could be conducted with enlisted soldiers' pay data. Other formulations could use more varied, and perhaps more realistic, civilian salary data. Taxes and CPI adjustments might also be included in other models.

ENDNOTES

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¹⁹Thomas L. Saaty, <u>The Analytical Heirarchy Process: Planning</u>, <u>Priority Setting</u>, <u>Resource Allocation</u> (New York: 1980), passim.

²⁰Ralph Keeney and Howard Raiffa, <u>Decisions with Multiple</u> <u>Objectives: Preferences and Value Tradeoffs</u> (New York: John Wiley and Sons, 1976), passim.

²¹Ching-Lai Hwang, and Kwangsun Yoon, <u>Lecture Notes in Economics</u> and <u>Mathematical Systems: Multiple Attribute Decision Making</u> (New York: Springer-Verlag, 1981), passim.

APPENDIX A

ASSUMPTIONS

This thesis used several assumptions to limit the scope of research. The spreadsheet formulation required several additional assumptions to limit the amount of data to manageable amounts. Users can adjust numbers in the spreadsheets to fit their particular situations. The assumptions are listed below.

- 1. The spreadsheet formulation includes data for one representative type of officer (15 to 20 years of service, with no breaks in service, and no enlisted time). Data are not provided for enlisted or warrant officers. Officers with other service profiles should adjust the formulation to fit their particular needs. For this spreadsheet formulation, it is assumed the officer could continue service until year 20, if so desired. That is, the possibility of involuntary separation is not considered. As other studies have dealt with retirement after 20 years, advancement potential beyond this time is not considered. There is no consideration of Army branch, or the size of the future Army.
- 2. A 35 year planning horizon is assumed. As such, the data in the spreadsheets are for an officer who is 35 years old at 15 years of service, can expect to be promoted at 17 years of service, and will die/stop working at 70 years of age. This assumption is to facilitate

consistent comparisons of retirement options, for the purpose of economic analysis.

- 3. The spreadsheet formulation allows soldiers to base their decision solely on financial criteria. It is assumed the only factors of financial significance to the officer are compensation (military pay, military retired pay, civilian pay), housing and allowances. These are included in the spreadsheet formulation. Since happiness, security, and other comfort considerations vary widely, they are excluded. However, because these factors may be important to the decision maker, they are discussed in an additional sensitivity analysis in Chapter IV.
- 4. Discount rates are assumed (selected) by the user. Data presented in the tables (appendix B) are not discounted. However, all data are discounted to present values in the spreadsheet formulation.
- 5. The data are assumed to be constant year dollar values, to facilitate meaningful comparison.
- 6. It is assumed the user will be offered the early retirement under the traditional program (2.5% of terminal basic pay, times the number of years of service). This allows the formulation to be of value to soldiers currently making retirement decisions. It also simplifies calculations for the retirement pay. Also, soldiers most affected by the early retirement opportunity fall into this year-group category.
- 7. It is assumed the officer has no breaks in service, or prior enlisted service. He has no bonuses, special pay (flight and doctor's pay), or unused leave balances. These assumptions simplify the construction of the pay tables, but do not compromise the validity of

- the model. Rather, they result in a slight reduction in the applicable population, as discussed in paragraph 6, above.
- 8. State and federal tax rates vary significantly, and are not the focus of this thesis. To model tax rates under these circumstances would make consistent (ceterus paribus) comparisons difficult.
- 9. It is assumed that veteran's benefits are the same for soldiers retiring at any time. Thus, veteran's benefits (other than pay) are excluded, to simplify the construction of the compensation tables. These benefits include (but are not limited to):
 - A. Transportation/moving expenses.
 - B. Education benefits.
 - C. Employment advantages.
 - D. Employment restrictions.
 - E. Life insurance entitlement.
 - F. Home loan entitlement.
 - G. Burial entitlement.
 - H. Insurance entitlement.
 - I. Disability compensation.
 - J. Vocational rehabilitation.
 - K. Survivor benefits.
- 10. Variable housing allowance is assumed to be \$200 per month. Basic allowance for quarters adjusts at 17 years when promoted to lieutenant colonel. It is assumed the soldier lives off post or, if

on post, the benefit is equal to the value of the variable housing allowance and basic allowance for quarters. These assumptions facilitate comparison.

11. It is assumed that the civilian pay rate is constant.

However, varying civilian pay can be modeled as indicated in Chapter IV.

To make assumptions about increasing civilian pay streams amounts to speculation and would be inconsistent with the constant year dollar (zero inflation) assumption.

APPENDIX B

MILITARY PAY TABLE

Military pay structur	structure; i	e; in dollars per month.	er month.							
	Month sol	soldier retires:								
a state of the sta	MONTH0	MONTH1	MONTH2	MONTH3	MONTH4	MONTH5	MONTH6	MONTH7 .	•	MONTH60
Earnings:										
MONTHO	3881		3881			3881	3881	3881		3881
MONTH1	0 : : :	3881	3881				3881	3881	•	3881
MONTH2	0	0	3881	3881	3881		3881	3881		3881
MONTH3	0		0	3881	1	3881	3881	3881		3881
MONTH4	0		0	0	3881		3881	3881		3881
MONTH5	-			0	0	3881	3881	3881		3881
MONTH6	0	0		0	0	0	3881	3881	:	3881
MONTH7	0	0	0	0	0	0		3881		3881
MONTH8	0	0	0	0	0	0	0	0		3881
MONTH9	0	0	0	0	0	0	0	0		3881
MONTH10	0		0	0	0	O	0	0	•	3881
MONTH11	0	0	0	0	0	0	0	0		3881
MONTH12		0	0) 	0	0		0	•	3881
MONTH13		0) C	0	0	0	0		4052
MONTH14		0	0	0	0	0		0		4052
•							•		:	
MONTH419		0	0	0	0	<u> </u>	<u> </u>	0	:	0
MONTH420		0	0	0	C	0	<u></u>	0	•	0

MILITARY ALLOWANCE TABLE

Military allowance structure; in dollars per month	vance struc	sture; in do	lars per mo	onth.						
	Month so	dier retires		-				:		
	MONTH0	MONTH1	MONTH2	MONTH3	MONTH4	MONTH5	MONTH6	MONTH7	:	MONTH60
Earnings:										
MONTH0	943	943		943					:	943
MONTH1		943	943	943		!		:		943
MONTH2		0		943					:	943
MONTH3		0	0	943	943	943		:	:	943
MONTH4		0	0	0	943				:	943
MONTH5		0	0	0	0	943	943	943		943
MONTH6		0	0	0	0	0	943	:	:	943
MONTH7	· ·	0	0	0	0	0		943		943
MONTH8		0	0	0	0	0	0	0		943
MONTH9		0	0	0	0	0		0	:	943
MONTH10		0	0		0	0		0		943
MONTH11		0	0	0	0	0		0	:	943
MONTH12		0	0	0	0	0		0	:	943
MONTH13		0	0		0	0		0	:	943
MONTH14		0	0	0	0	0		0		943
•		-							:	
MONTH419		0	0	0	_	-	_	0	:	0
MONTH420)	0	0	0	O	0)	0 0		0

MILITARY RETIRED PAY TABLE

Military retired pay st		ructure; in dollars per month	llars per m	onth.						
		oldier retires:								
	MONTH0	MONTH1	MONTH2	MONTH3	MONTH4	MONTHS	MONTH6	MONTH7	MON.	MONTH60
Earnings:										
MONTHO	0	0	0	0	0	0	0	0	-	0
MONTH1	1383	0	0	0	0	0	0	0		0
MONTH2	1383	1392	0	0	0	0	0	0		0
MONTH3	1383	•		0	0	0	0	0		0
MONTH4	1383		1400	1409	0	0		0	:	0
MONTHS	1383	_		_		0		0		0
MONTH6	1383		;	1409	1418	1427	0	0		0
MONTH7	1383	. 4-			1418		1436	0		0
MONTH8	1383	_	:			•	1436	1436		0
MONTH9	1383				1418	Ì	1436		· 	0
MONTH10	1383	1392		1409	1418	1427	1436		:	0
MONTH11	1383	:	!			1427				0
MONTH12	1383	:			1418	Ì		·		0
MONTH13	1383				1418	1427	1436	1436	:	0
MONTH14	1383	1392	1400	1409					•	0
		:							:	
MONTH419	1383	1392	1400	1409	1418	1427	1436	1436		2335
MONTH 420	1383		:			:		•		2335

CIVILIAN PAY TABLE

Civilian pay structure; in dollars per month (this table assumes \$10,000 annual salary)	structure	; in dollars	per month	this tabl	e assumes	\$10,000 a	nnual sala	Z).		
	Month so	th soldier retires:	S:							
	MONTHO	TH0 MONTH1	MONTH2	MONTH3	MONTH4	MONTH5	MONTH6	MONTH7	• • • •	MONTH60
Earnings:										
MONTH0	0	0	0	0	0	0	0	0		0
MONTH1	833	0	0	0	0	0	0	0	:	0
MONTH2	833	:	0	0	0	0	0	0	:	0
MONTH3	833		833	0	0	0	0	0	:	0
MONTH4	833			833	0	0	0	0		0
MONTHS	833	:			833	0	0	0	:	0
MONTH6	833	:	:		833	: :			:	0
MONTH7	833	833			833		:	0		0
MONTH8	833		833					833	:	0
MONTH9	833		:				1	833		0
MONTH10	833	833	:		:	! !	: :	:	:	0
MONTH11	833		833	833	833	833	i :	:	:	0
MONTH12	833	:	!				:		:	0
MONTH13	833	833	833		i	:	: :	833		0
MONTH14	833		833		833		833		:	0
OLTHA10					:	::	•	833		A33
MONTH 420			833	833	833	833	833	:		833

APPENDIX C

	Overall Ea	Earnings if F	Retire at 15 years and n	years and	n Months;	.04 discount rate,	ınt rate, aı	nd various	and various civilian pay.	y.
	-	nt rate =.04	1							
	MONTHO	0 MONTH1	MONTH2	MONTH3	MONTH4 MONTH5	MONTH5	MONTH6	MONTH7	MONTH8	MONTH9
Salary:										
2000	423755	428867	433961	439037	444095	449135	454157	457127	464147	469115
10000	520773	525468	530145	534805	539446	544070	548675	551229	557832	562383
15000	1	622069	626330	630573	634797	639004	643193	645331	651517	655652
20000	!	718669	722514	726340	730149	733939	737711	739432	745202	748921
25000	8118	815270	818698	822108	825500	828874	832230	833534	838887	842189
30000	9088	911871	914882	917876	920851	923808	926748	927636	932573	935458
35000	1005858	1008471	1011066	1013643	1016202	1018743	1021266	1021737	1026258	1028727
40000		1105072	1107250	1109411	1111553	1113678	1115784	1115839	1119943	1121995
45000		1201673	1203435	1205179	1206904	1208612	1210302	1209941	1213628	1215264
20000	1296910	1298273	1299619	1300946	1302256	1303547	1304820	1304042	1307313	1308533
55000	<u>:</u>	1394874	1395803	1396714	1397607	1398482	1399339	1398144	1400998	1401801
90009	1490944	1491475	1491987	1492482	1492958	1493416	1493857	1492246	1494684	1495070
65000		1588075	1588171	1588249	1588309	1588351	1588375	1586347	1588369	1588339
70000	t	1684676	1684355	1684017	1683660	1683286	1682893	1680449	1682054	1681607
75000	1781996	1781277	1780540	1779785	1779011	1778220	1777411	1774551	1775739	1774876
80000	1879013	1877877	1876724	1875552	1874363	1873155	1871929	1868652	1869424	1868145
85000	1976030	1974478	1972908	1971320	1969714	1968090	1966448	1962754	1963109	1961413
00006	÷	2071079	206902	2067088	2065065	2063024	2060966	2056856	2056795	2054682
95000	2170064	2167679	2165276	2162855	2160416	2157959	2155484	2150957	2150480	2147951
100000	2267082	2264280	2261460	2258623	2255767	2252894	2250002	2245059		2241219
105000	2364099	2360881	2357645	2354391	2351118	2347828	2344520	2339161	2337850	2334488
110000	2461116	2457481	2453829	2450158	2446470	2442763	2439038	2433262	2431535	2427757
115000	2558133	2554082	2550013	2545926	-	2537698	2533557	2527364	252520	2521025
120000	2655150	2650683	3 2646197	2641694	2637172	2632632	2628075	2621466	2618906	2614294

MONTH10 MONTH11 MONTH12 MONTH13 MONTH14 MONTH16 MONTH16 MONTH116 MONTH17 474065 478996 489910 503377 508245 513313 518145 523176 568917 571432 575930 584996 599463 604131 608563 613193 659769 6636681 680681 690494 698960 703210 752621 756303 75968 77823 78189 785766 789397 73221 938325 94177 944006 961471 964336 967402 970232 973260 103410 1038610 1038610 1058025 1058089 152820 1532637 1126046 1128045 1128045 1144708 1144772 1149037 153337 1200417 1310917 1310917 1414708 132620 1330673 1422331 1402586 140512 141440 122004 1420427 1421491 1422331 158823										
474065 478996 483910 503377 508245 513313 518145 5669769 653868 667949 686614 690681 694949 698980 752621 756303 759968 778233 781899 785766 789397 845473 848739 851987 869852 873118 876584 698690 1031178 103840 1038025 1038025 103803 1128045 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128040 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1124033 1151066 1124033 1126046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046 1128046		MONTH10		MONTH12	MONTH13	MONTH14		MONTH16	MONTH17	MONTH18
474065 478996 483910 503377 508245 513313 518145 566917 571432 575930 594996 599463 604131 608563 659769 663868 667949 686614 690681 694949 698980 752621 756303 759968 778233 781899 785766 789387 845473 861987 869852 873118 876564 879814 938325 941175 944006 961471 964336 967402 970232 1031178 1033610 1036025 1053089 1055524 1060649 1760649 1124030 1126046 1128045 1144708 1146772 1149037 1151066 1216882 1310917 1312083 1327945 1329209 1330673 1331901 1402586 1496121 1511183 151642 152308 162366 1405586 1496121 1511645 152308 162366 1495789 1496121 <th>Salary:</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>1</th> <th></th> <th>The second secon</th> <th></th>	Salary:						1		The second secon	
566917 571432 575930 594996 599463 604131 608563 663769 663868 667949 686614 690681 694949 698980 752621 756303 759968 778233 781899 785766 789397 845473 848739 851987 869852 873118 876584 879814 938325 941175 944006 961471 964336 967402 970232 1031178 1033610 1128046 1128046 1128045 1144708 1146772 1149037 1151066 124030 1126046 1128045 1236327 1237940 1239855 1241483 1402586 140378 132083 1327945 1329209 1330673 131901 1402586 14045789 1404102 1419564 1420427 1421491 1422318 1495789 1496781 151183 1511645 15123985 1241483 1588224 1588140 1602801 1604081	2000	474065	478996	•	503377		513313	518145	523176	
659769 663868 667949 680681 690681 694949 698980 752621 756303 769968 778233 781899 785766 789397 845473 848739 861987 869852 873118 876584 879814 938325 941175 944006 961471 964336 967402 970232 1031178 1033610 1036025 1053089 1055554 10508220 1060649 1124030 1126046 1128045 1144708 1146772 1149037 1151066 12402031 1310917 1312083 1327945 1239855 1241483 1309734 1310917 1312083 1327945 1421491 1422318 1402586 1496121 151183 151645 1512308 151735 1588291 15881240 1602801 1602863 1603156 1603156 1588291 1588294 1602803 1785308 1512308 1512736 168143 1662801	10000	566917	571432		594996	599463	604131	608563	613193	617589
752621 756303 759968 778233 781899 785766 789397 845473 848739 851987 869852 873118 876584 879814 938325 941175 944006 961471 964336 967402 970232 1031178 1033610 1036025 1053089 1055554 1060849 1151086 1124030 1126046 1128045 1144708 1146772 1149037 1151086 1240258 1220064 1236327 1237990 1239855 1241483 1309734 1310917 1312083 1327945 1329209 1330673 1312081 1402586 1495789 1496121 151183 1511645 1512308 1512735 158231 186217 151183 151645 152308 152736 158234 168060 1680160 1694420 1694081 1693944 169357 1773995 1773096 1772179 178630 178403 2145656 <	15000	659769	663868	:	686614		694949	086869	703210	707206
845473 849739 851987 869852 873118 876584 879814 938325 941175 944006 961471 964336 967402 970232 1031178 1033610 1056025 1055089 1055554 1058220 1060649 1124030 1126046 1128045 1144708 1146772 1149037 1151066 124030 1218482 1220064 1236327 1237990 1239855 1241483 1309734 1310917 1312083 1327945 132097 1421493 1330673 1331901 1402586 1496121 1511183 1511645 1512308 1512735 152736 14858291 1588140 1602801 1602863 1603126 1603152 1603152 1773096 1772179 1786039 178404 1874404 1866897 1864821 1959699 1957967 1956217 1969276 1966236 2056895 205603 2145556 2052551 2050403 2	20000	752621	756303	:	778233		785766	789397	:	796822
938325 941175 944006 961471 964336 967402 970232 1031178 1038610 1036025 1053689 1055554 1058220 1060649 1124030 1126046 1128045 1144772 1149037 1151066 1216882 1220064 1236327 1237990 1239855 1241483 1309734 1310917 1312083 1327945 1420427 142149037 1151066 1402586 1403353 1404102 1419564 1420427 1421491 1422318 1495438 1495789 1496121 1511183 1511645 1512308 1512735 1588291 158824 1692801 1602863 1603126 1603152 1773995 1773096 1694420 1693681 1693944 1693570 1773996 1772179 1786339 1785300 1784761 1783987 1866531 1864198 1877657 1876518 1875579 1874656 2052551 2050403	25000	845473	848739		869852		876584	879814	:	886438
1031178 1033610 1036025 1053089 1055554 1058220 1060649 1124030 1126046 1128045 1144708 1146772 1149037 1151066 1216882 1218482 1220064 1236327 1237990 1239855 1241483 1309734 1310917 1312083 1327945 1329209 1330673 1331901 1402586 1403353 1404102 1419564 1420427 1421491 1422318 1402586 1403353 1404102 1419564 1420427 1421491 1422318 1402586 1495789 1496121 1511183 1511645 1512308 1512735 1588291 1588224 1602801 1602803 1602844 1603152 1681143 1680660 1690420 1694081 1603394 1693570 1773995 1772179 1786039 1785300 1784761 1783987 1866847 1865531 1864198 1877657 1876579 1876586	30000	938325	:	:	961471	!	967402	970232	973260	976054
1124030 1126046 1128045 1144708 1146772 1149037 1151066 1216882 1218482 1220064 1236327 1237990 1239855 1241483 1309734 1310917 1312083 1327945 1329209 1330673 1331901 1402586 1403353 1404102 1419564 1420427 1421491 1422318 1495438 1495789 1496121 1511183 1511645 1512308 1512735 1588291 1588224 1588140 1602801 16024081 1693394 1693152 1681143 168060 1680160 1694420 16934081 1693394 1693152 1773995 1772179 1786039 1785300 1784761 1783987 1866847 1865531 1864198 1877657 1876518 1875579 1874404 2052551 2050403 2048236 2060895 2057215 2055239 2145404 2142838 2140255 2152513 2150173 2148032	35000	1031178	1					1060649		1065671
12168821218482122006412363271237990123985512414831309734131091713120831327945132920913306731331901140258614033531404102141956414204271421491142231814954381495789149612115111831511645151230815127351588291158822415881401602863160312616031521681143168066016801601694420169408116933441693357017739951772179178603917853001784761178398718668471865531186419818776571874551918744041959699195796719562171969276196773619663971964821205255120504032048236206089520588542057215205523921454042142838214025521525132150173214803221456562423806232771023242942335751232360924238502326490251681225125812503322518988251504525032642609664260501726003512610607260626426021212597742	40000	1124030		1128045	1144708			-	!	1155287
1309734 1310917 1312083 1327945 1329209 1330673 1331901 1402586 1403353 1404102 1419564 1420427 1421491 1422318 1495438 1495789 1496121 1511183 1511645 1512735 1512735 1588291 158824 1680160 1694420 1694081 1693394 1603152 16773995 1772179 1786039 1785300 1784761 1783987 1773995 1772179 1786039 1785300 1784761 1783987 1866847 1865531 1864198 1877657 1876518 1874404 1959699 1957967 1956217 1969276 1967736 1963397 1964821 2052551 2050403 2048236 2060895 2058954 2057215 2055239 2145404 2142838 2140255 2152513 2150173 2148032 2145656 2238256 2235274 2324294 2332699 2423869 2416908	45000	1216882			1236327	-	1239855			1244903
1402586140335314041021419564142042714214911422318149543814957891496121151118315116451512308151273515882911588224158814016028011602863160312616031521681143168066016801601694420169408116939441693570177399517720961772179178603917853001784761178398718668471865531186419818776571876518187440419596991957967195621719692761967736196639719648212052551204823620608952058954205721520552392145404214283821402552152513215017321480322145656223825622352742232275224139122388502236073242396024201452416313242382724238272423827251681225125812507325251130325073252609664260501726003512610607260626426021212597742	50000	1309734		:	1327945		1330673	1331901	1333327	1334520
149543814957891496121151118315116451512308151273515882911588224158814016028011602863160312616031521681143168066016801601694420169408116935701773995177309617721791786039177853017784761178398718668471865531186419818776571876518187440419596991957967195621719692761967736196639719648212052551205040320482362050895205895420572152055239214540421428382140255215251321501732148032214565622382562235274223227522413912238668232649024239602420145241631324238272423827242382725168122512581250833225189882515045251130325073252609664260501726005512610607260626426021212597742	55000	1402586		1404102	1419564		1421491	1422318	:	1424136
1588291 1588224 1588140 1602801 1602863 1603126 1603152 1681143 168060 1680160 1694420 1694081 1693944 1693570 1773995 1772179 1786039 1785300 1784761 1783887 1866847 1865531 1864198 1877657 1876518 1874504 1874404 1959699 1957967 1956217 1969276 1967736 1966397 1964821 2052551 2050403 2048236 2060895 2058954 2057215 2055239 2145404 2142838 2140255 2152513 2150173 2148032 2145656 2238256 2235274 2232275 2241391 2238850 2236490 2423960 2420145 2427369 2423827 2420486 2416908 2516812 2512581 260832 2518988 2511303 2507325 2609664 2605017 2606264 2602121 2597742	00009	1495438	-	_	1511183	· —	1512308	1512735		1513752
1681143 1680660 1680160 1694420 1694081 1693944 1693570 1773995 1773096 1772179 1786039 1785300 1784761 1783987 1866847 1865531 1864198 1877657 1876518 187404 1959699 1957967 1969276 1967736 1966397 1964821 2052551 2050403 2048236 2060895 2058954 2057215 2055239 2145404 2142838 2140255 2152513 2150173 2148032 2145656 2238256 2235274 2232275 2241391 2238850 2236073 2423960 2420145 2416313 2427369 2423866 2416908 2516812 2512581 251898 2515045 2507325 2609664 2605017 2600351 2610607 2606264 2602121 2597742	65000			1588140		1602863	1603126	1603152		1603368
1773995177309617721791786039178530017847611783987186684718655311864198187765718765181875579187440419596991957967195621719692761967736196639719648212052551205040320482362060895205895420572152055239214540421428382140255215251321501732148032214565622382562235274223227522413912238850223649024239602420145241631324273692423827242382725168122512581250833225189882515045251130325073252609664260501726003512610607260626426021212597742	70000	168114		:		_	1693944	1693570	_	1692985
1866847 1865531 1864198 1877657 1876518 1875579 1874404 1959699 1957967 1956217 1969276 1967736 1966397 1964821 2052551 2050403 2048236 2060895 2058954 2057215 2055239 2145404 2142838 2140255 2152513 2150173 2148032 2145656 2238256 2235274 2232275 2244132 2241391 2238850 2236490 2423960 2420145 2416313 2427369 2423827 2420486 2416908 2516812 2512581 2508332 2518988 2515045 2511303 2507325 2609664 2605017 2600551 260052121 2597742 2597742	75000	177399		1772179	`		1784761	1783987		1782601
195969919579671956217196927619677361966397196482120525512050403204823620608952058954205721520552392145404214283821402552152513215017321480322145656223825622352742232275224413222413912238850223607323311082327710232429423357512326092329668232649024239602420145241631324273692423827241690825168122512581250833225189882515045251130325073252609664260501726003512610607260626426021212597742	80000	186684		1864198			1875579		· 	1872217
2052551 2050403 2048236 2060895 2058954 2057215 2055239 2145404 2142838 2140255 2152513 2150173 2148032 2145656 2238256 2235274 2232275 2244132 2241391 2238850 2236073 2331108 2327710 2324294 2335751 2332609 2329668 2326490 2423960 2420145 2416313 2427369 2423827 2416908 2516812 2512581 2508332 2518988 2515045 2511303 2507325 2609664 2605017 2600351 2610607 2606264 2602121 2597742	85000	195969		: :	1969276		1966397		1963445	1961834
2145404 2142838 2140255 2152513 2150173 2148032 2145656 2238256 2235274 2232275 2244132 2241391 2238850 2236073 2331108 2327710 2324294 2335751 2332609 2329668 2326490 2423960 2420145 2416313 2427369 2423827 2420486 2416908 2516812 2512581 2508332 2518988 2515045 2511303 2507325 2609664 2605017 2600351 2610607 2606264 2602121 2597742	00006	205255	<u>i</u>				2057215			2051450
2238256 2235274 2232275 2244132 2241391 2238850 2236073 2331108 2327710 2324294 2335751 2332609 2329668 2326490 2423960 2420145 2416313 2427369 2423827 2420486 2416908 2516812 2512581 2508332 2518988 2515045 2511303 2507325 2609664 2605017 2600351 2610607 2606264 2602121 2597742	95000	214540					2148032	i 		2141066
2331108 2327710 2324294 2335751 2332609 2329668 2326490 2423960 2420145 2416313 2427369 2423827 2420486 2416908 2516812 2512581 2508332 2518988 2515045 2511303 2507325 2609664 2605017 2600351 2610607 2606264 2602121 2597742	100000	2238256		1			2238850			2230682
2423960 2420145 2416313 2427369 2423827 2420486 2416908 2516812 2512581 2508332 2518988 2515045 2511303 2507325 2609664 2605017 2600351 2610607 2606264 2602121 2597742	105000		ļ		L		i - <u>-</u> -			2320299
2516812 2512581 2508332 2518988 2515045 2511303 2507325 2609664 2605017 2600351 2610607 2606264 2602121 2597742	110000	!	1	: · ·			2420486			2409915
2609664 2605017 2600351 2610607 2606264 2602121 2597742	115000	!								2499531
	120000	260966	1		<u></u>	-				2589148

	MONTH19	19 MONTH20 MONTH21		MONTH22 MONTH23	MONTH23	MONTH24	MONTH25	MONTH24 MONTH25 MONTH26 MONTH27	MONTH27
Salary:									
5000	532967	537728	542683	547620	552327	557227	293909	598953	604186
10000	622182	626543	631098	635635	639941	644440	680737	685397	690244
15000	7113	715358	719513	723649	727555	731653	767565	771840	776302
20000	800614	804173	807928	811663	815169	818867	854394	858283	862361
25000	1	892989	896343	899678	902783	080906	941222	944726	948419
30000	9790	981804	984758	987692	990397	993294	1028050	1031169	1034477
35000	10682	1070619	1073173	1075706	1078011	1080507	1114879	1117613	1120535
40000	11574	1159435	1161587	1163721	1165625	1167720	1201707	1204056	1206593
45000		1248250	1250002	1251735	1253238	1254934	1288535	1290499	1292651
20000	13359	1337065	1338417	1339749	1340852	1342147	1375363	-	1378710
55000	!	1425881	1426832	1427764	1428466	1429361	1462192	1463386	1464768
00009	!	1514696	1515247	1515778	1516080	1516574	1549020	1549829	1550826
65000	1603556	1603511	1603662	1603793	1603694	1603787	1635848	1636272	1636884
70000	i ' ! 	1692327	1692076	1691807	1691308	1691001	1722677	1722715	1722942
75000	17819	1781142	1780491	1779821	1778922	1778214	1809505	1809159	1809000
80000		1869957	1868906	1867836	1866536	1865428	1896333	1895602	1895059
85000	1960419	1958773	1957321	1955850	1954149	1952641	1983162	1982045	1981117
90000	}	2047588	2045736	2043864	2041763		2069990	2068488	2067175
95000	2138851	2136403	2134151	2131879	2129377	2127068	2156818	2154932	2153233
100000	22280	2225219	2222565	2219893	2216991	2214281	2243647		2239291
105000	!	2314034	2310980	2307907	2304605	2301495	2330475	2327818	2325349
110000	2406498	2402849	2399395	2395922	2392219	2388708	2417303	2414261	2411408
115000		2491665	2487810	2483936		2475921	2504132	2500705	2497466
120000	2584930	2580480	2576225	2571950	2567447	2563135	2590960	2587148	2583524

-	MONTH28	MONTH29	MONTH30	MONTH31	MONTH32	MONTH33	MONTH34	MONTH35	MONTH36
Salary:									1
2000	609193	614386	619355	624508	629641	634553	639646		649573
10000	694866	699674	704258	709026	713774	718300	723008	727696	732165
15000	780539	784962	789161	793544	797907	802048	806371	810674	
20000	866212	870250	874064	878062	882039	885796	889734	893651	897350
25000	951885	955538	958967	962580	966172	969543	953096	976629	
30000	1037558	1040826	1043869	1047097	1050305	1053291	1056459	1059606	1062535
35000	1123231	1126114	1128772	1131615	1134438	1137039	1139822	1142584	1145128
40000	1208904	1211402	1213675	1216133	1218570	1220786	1223184	-	1227720
45000	1294578	1296690	1298578	1300651	1302703	1304534	1306547	1308539	1310313
20000	1380251	1381978	1383481	1385169	1386836	1388282	1389909	1391517	1392905
55000	1465924	1467266	1468384	1469687	1470969	1472030	1473272	1474494	1475498
00009	1551597	1552554	1553287	1554204	1555102	1555777	1556635	5 1557472	1558090
65000	163727	1637842	1638190	1638722	1639234	1639525	5 1639997	7 1640449	_
70000		1723130	1723093	1723240	1723367	1723273	3 1723360	0 1723427	1723275
75000	1808616	1808418	1807996	1807758	1807500	1807020	1806722	1806404	1805867
80000	189428	1893706	1892899	1892276	1891633	1890768	1890085	5 1889382	1888460
85000	Ľ	1978994	1977802	1976794	1975765	1974516	5 1973448	8 1972359	9 1971052
90000	206563	5 2064282	2062705	2061312	2059898	3 2058263	3 2056810	0 2055337	7 2053645
95000	!	3 2149570	2147608	2145829	9 2144031	214201	1 2140173	3 2138314	4 2136237
100000	2236982	2234858	3 2232510	2230347	7 2228164	1 2225759	9 2223536	6 2221293	N
105000	<u> </u>	5 2320146	3 2317413	2314865	5 2312297	7 2309507	7 2306898	8 2304270	0 2301422
110000	2408328	3 2405434	1 2402316	2399383	3 2396429	9 2393254	4 239026	1 238724	7 2384015
115000	2494001	1 2490722	2487219	2483901	1 2480562	2477002	2 2473623	3 2470225	5 2466607
120000	2579674	4 2576010) 2572122	2568419	9 2564695	5 2560750	0 2556986	6 2553202	2 2549200

	MONTH37	MONTH38	MONTH39	MONTH40	MONTH41	37 MONTH38 MONTH39 MONTH40 MONTH41 MONTH42 MONTH43	MONTH43	MONTH44	MONTH45
Salary:									
2000	676830	681859	687063	692052	697020	702162	707091	712192	717080
10000		763711	768545	773163	777761	782533	787092	791822	796340
15000		845563	850027	854274	858503	862904	867092	871452	875600
20000	923497		931508	935386	939244	943275	947093	951083	954861
25000	10057	1009267	1012990	1016497	1019985	1023646	1027094	1030713	1034121
30000		1091118	1094472	1097609	1100726	1104017	1107094	1110343	1113381
35000		1172970	1175953	1178720	1181467	1184388	1187095	1189974	1192641
40000	12523	1254822	1257435	1259831	1262208	1264759	1267095	1269604	1271901
45000	13346	1336674	1338917	1340943	1342949	1345129	1347096	1349234	1351161
20000	'	1418526	1420398	1422054	1423690	1425500	1427097	1428865	1430421
55000	14990	1500378	1501880	1503166	1504432	1505871	1507097	1508495	1509681
00009	15812	1582230	1583362	1584277	1585173	1586242	1587098	1588125	1588941
65000	16634	1664082	1664843	1665388	1665914	1666613	1667098	1667756	1668201
70000		1745934	1746325	1746500	1746655	1746984	1747099	1747386	1747461
75000	18279	1827786	1827807	1827611	1827396	1827355	1827100	1827016	1826721
80000	19101	1909638	1909288	1908723	1908137	1907725	1907100	1906647	1905981
85000	1992386	1991490	1990770	1989834	1988878	1988096	1987101	1986277	1985241
90000		2073342	2072252	2070945	2069620	2068467	2067101		2064501
95000	2156830	2155194	2153733	2152057	2150361	2148838	2147102	2145538	2143761
100000	22390	2237046	2235215	2233168	2231102	2229209	2227103	2225168	2223022
105000	23212	2318897	2316697	2314279	2311843	2309580	2307103	2304798	2302282
110000		2400749	2398178	2395391	2392584	2389951	2387104	2384429	2381542
115000	2485719	2482601	2479660	2476502	2473325	2470321	2467104	2464059	2460802
120000	2567941	2564453	2561142	2557614	2554066	2550692	2547105	2543689	2540062

	MONTH46	MONTH47	MONTH48	MONTH49	MONTH50	MONTH51	MONTH52	MONTH63 MONTH54	MONTH54
Salary:									
2000	721950	726988	731817	736708	741392	746243	750889		760307
10000	800839	805507	996608	814501	818829	823324	827614	832068	836320
15000	879729	884027	888115	892294	896267	900405	904339	908437	912333
20000	958619	962546	966265	970087	973704	977486	981064	984806	988346
25000	1037509	1041066	1044414	1047881	1051141	1054567	1057789	1061176	1064359
30000	1116399	1119585	1122563	1125674	1128578	1131649	-	1137545	1140372
35000	1195288	1198105	-	1203467	1206015	1208730	1211240	1213914	1216385
40000	1274178	1276624	1278862	1281260	1283453	1285811	1287965	5 1290283	1292398
45000	1353068	1355144	1357011	1359054	1360890	1362892	1364690	1366652	136841
50000	1431958	1433663	1435160	1436847	1438327	1439973	1441415	5 1443021	1444424
55000	1510848	1512183	1513310	1514640	1515764	1517055	1518140	1519390	1520438
00009	1589737	1590703	1591459	1592433	1593201	1594136	1594865	5 1595760	159645
65000	1668627	1669222	1669608	1670227	1670639	1671217	1671591		1672464
70000	1747517	1747742	1747757	1748020	1748076	1748298	1748316	5 1748498	1748477
75000	1826407	1826261	1825907	1825813	1825513	1825379	1825041	1 1824867	1824490
80000	1	1904781	1904056	1903606	1902950	1902460	1901766	6 1901236	1900503
85000	İ	1983300	1982205	1981399	1980387	1979542	1978491	1 1977605	1976516
00006		3 2061820	2060354	2059193	3 2057825	2056623		6 2053974	1 2052529
95000	i .l	5 2140339	2138504	2136986	3 2135262	2133704	213194	1 2130343	3 2128542
100000	!	3 2218859	3 2216653	2214779	2212699	2210785	5 2208667	7 2206713	3 2204556
105000	!	5 2297378	3 2294802	2292572	2290136	2287866	5 2285392	2 2283082	2280569
110000		5 2375898	3 2372951	2370366	3 2367573	2364948	8 236211	7 235945	1 2356582
115000		5 2454417	7 2451101	2448159	9 2445011	:	<u> </u>	2 2435820	2432595
120000	253641	5 2532937	7 2529250	2525952	2 2522448	3 2519110	0 2515567	7 2512189	9 2508608

				- Add a Bridge Bay strong a large strong and a second		
	MONTH55	MONTH58	MONTH57 MONTH58 MONTH59	MONTH58	MONTH59	MONTHEO
Salary:						
5000	765077	769827	774376	779085	783775	788266
10000	840734	845128	849321	853674	828008	862143
15000	916391	920429	924266	928263	932240	936020
20000	•	995730	999211	1002852	1006473	1009897
25000	1067705	1071031	1074156	1077441	1080706	1083774
30000	1143362	1146332	1149101	1152030	1154939	1157650
35000	1219019	1221633	1224046	1226619	1229172	1231527
40000	1294676	1296934	1298991	1301208	1303405	
45000	1370333	1372235	1373936	1375797	1377638	1379281
50000	1445991	1447536	1448881	1450386		·
55000	1521648	1522837	1523826	1524975		1527035
00009	1597305	1598138	1598771	1599564		_
65000	1672962	1673439	1673716	1674153		1674789
70000	1748619	1748740	1748661	1748742	1748803	
75000	1824276	1824041	1823606	1823331	1823036	1822543
80000	1899933	1899342	1898551	1897920		
85000	1975590	1974643	1973496	1972509		
90000	2051247	2049944	2048441			
95000	-	2125246	2123386		!	!
100000	2202561	2200547		2196276	3 2194201	
105000	2278218	3 2275848	2273276		5 2268434	
110000	2353875	5 2351149	<u> </u>	2345455		
115000	2429533	3 2426450	_			
120000	2505190	2501751	2498112	2494633	3 2491133	3 2487436

	Overall Earnings if	mings if R	Retire at 15 years and n Months; .08 discount rate, and various civilian pay	years and	n Months	.08 disco	unt rate, ar	nd various	civilian pa	- <u>-</u>
	Discount r	ate =.08								
	MONTHO	MONTH1	MONTH2	MONTH3	MONTH4	MONTHS	MONTHE	MONTH7	MONTH8	MONTH9
Salary:										
2000	276474	280849	285206	289545	293866	298169	302454	305424	310969	315200
10000	339384	343342	347282	351205	355109	358996	362864	365418	370547	374361
15000	402293	405835	409359	412865	416353	419823	423275	425412	430124	433522
20000	465203	468328	471435	474525	477596	480650	483685	485406	489702	492683
25000	528112	530821	533512	536185	538840	541477	544096	545400	549279	551844
30000	591022	593314	595588	597845	600083	602304	604506	605394	608857	611005
35000		655807	657665	659505	661327	663131	664917	665388	668434	670166
40000	716841	718300	719741	721165	722570	723958	725327	725382	728012	729327
45000	779750	780793	781818	782825	783814	784785	785737	785376	787589	788488
20000	842660	843286	843894	844485	845057	845612	846148	845370	847167	847649
55000	905569	905779	905971	906145	906301	906439	906558	905364	906744	906810
00009	:	968272	968047	967805	967544	967266	696996	965358	966322	965971
65000	1031388	1030765	1030124	1029465	1028788	1028093	1027379	1025352	1025899	1025132
70000	1094298	1093258	1092200	1091125	1090031	1088920	1087790	1085346	1085477	1084293
75000	i	1155751	1154277	1152785	1151275	1149747	1148200	1145340	1145054	1143454
80000	1220117	1218244	1216353	1214445	1212518	1210574	1208611	1205334	1204632	1202615
85000		1280737	1278430	1276105	1273762	1271401	1269021	1265328	1264209	1261776
00006	1345936	1343230	1340506	1337765	1335005	1332228	1329432	1325322	1323787	1320937
95000	1408845	1405723	1402583	1399425	1396249	1393055	1389842	1385316	1383364	1380098
100000	1471755	1468216	1464659	1461085	1457492	1453882	1450253	1445310	1442942	1439259
105000	1534664	1530709	1526736	1522745	1518736	1514709	1510663	1505304	1502519	1498420
110000	1597574	1593202	1588812	1584405	1579979	1575536	1571074	1565298	1562097	1557581
115000	1660483	1655695	1650889	1646065	1641223	1636363	1631484	1625292	1621674	1616742
120000	1723393	1718188	1712965	1707725	1702466	1697190	1691895	1685286	1681252	1675903

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	MONTH10	0 MONTH11	MONTH12	MONTH13	MONTH14	MONTH15	MONTH16	MONTH17	MONTH18
Salary:									
2000	319413	323608	327785	341002	345027	349170	353160	357268	361223
10000	378158	381936	385696	398528	402167	405925	409529	413251	416821
15000	436902	440264	443608	456054	459307	462679	465898	469234	472418
20000	495647	498592	501519	513580	516447	519434	522267	525217	528016
25000		556920	559431	571106	573587	576188	578636	581201	583614
30000		615248	617342	628632	630728	632943	635005	637184	639211
35000	!	673576	675254	686158	687868	689698	691373	693167	694809
40000	730625	731904	733165	743683	745008	746452	747742	749150	750406
45000		790232	791077	801209	802148	803207	804111	805134	806004
20000	į	848560	848988	858735	859288	859961	860480	861117	861602
55000	!	906888	006906	916261	916429	916716	916849	917100	917199
00009	<u> </u>	965216	964811	973787	973569	973470	973218		972797
65000		1023544	1022723	1031313	1030709	1030225	1029587	1029067	1028394
70000		1081872	1080634	1088838	1087849	1086979	1085956	-	1083992
75000	!	1140200	1138546	1146364	1144989	1143734	1142325	1141033	1139590
80000		1198528	1196457	1203890	1202130	1200488	1198694	1197016	1195187
85000	1259325	1256856	1254369	1261416	1259270	1257243	1255062	1253000	1250785
00006		1315184	1312280	1318942	1316410	1313998	1311431	1308983	1306382
95000	1376814	1373512	1370192	1376468	1373550	1370752	1367800	1364966	1361980
100000	1435558	1431840	1428103	1433994	1430690	1427507	1424169	1420949	1417578
105000	1494303	1490168	1486015	1491519	1487830	1484261	1480538	1476933	1473175
110000	1553047	1548496	1543926	1549045	1544971	1541016	1536907	1532916	1528773
115000	Ĺ	1606824	1601838	1606571	1602111	1597770	1593276	1588899	1584370
120000	1670536	1665152	1659749	1664097	1659251	1654525	1649645	1644882	1639968

MONTH19 MONTH20 MONTH21 MONTH22 MONTH22 MONTH23 MONTH24 MONTH25 365295 369216 373251 377268 381137 385118 408469 420507 424042 427692 431323 434807 438402 461395 475719 478869 482133 485378 488476 491686 514322 530930 533695 536573 539433 542146 544969 567249 586142 588521 64545 647545 649484 651537 673102 696566 698174 699895 701598 703154 764821 726028 694366 698174 699895 701598 703154 764821 726028 696566 698174 699895 701598 703154 764821 726028 751778 86265 862653 863217 863763 864162 864672 86408 86260 86265 86265 863277 863763<						- Market				
365295 369216 373251 377268 381137 385118 420507 424042 427692 431323 434807 438402 475719 478869 482133 485378 488476 491686 530930 533695 536573 539433 542146 54969 586142 588521 591014 593488 595815 598253 641354 643347 645455 647543 649484 651537 696566 698174 699895 701598 703154 704821 751778 753000 754336 755653 756823 758104 751778 753000 754336 755653 75682 71386 805202 862653 863217 863763 864162 864672 917414 917479 917658 917818 917831 917856 917205 972305 972098 971873 971501 971239 1083050 1081958 1025928		MONTH19	MONTH20	MONTH21	MONTH22		MONTH24	MONTH25	MONTH26	MONTH27
365295 369216 373251 377268 381137 385118 420507 424042 427692 431323 434807 438402 475719 478869 482133 486378 488476 491686 530930 533695 536573 539433 542146 544969 586142 588521 591014 593488 595815 598253 641354 643347 645455 647543 649484 651537 696566 698174 699895 701598 703154 704821 696566 698174 699895 701598 703154 704821 696566 698174 699895 701598 703154 704821 751778 753000 754336 755653 758104 864672 86202 862653 863217 863763 864162 864672 917414 917479 917658 917831 917831 1027838 102732 1026539 1025928	Salary:									
420507 424042 427692 431323 434807 438402 475719 478869 482133 485378 488476 491686 530930 533695 539673 539433 542146 544969 586142 588521 591014 593488 595815 598253 641354 643347 645455 647543 649484 651537 696566 698174 699895 701598 703154 704821 751778 753000 754336 756823 758104 806990 807782 808777 809708 810492 811388 806900 807782 863217 863763 864162 864672 917414 917479 917658 917818 917831 917955 917202 972305 972098 971873 971501 971239 1027838 1027132 1026539 1025983 1077807 1738508 1138262 1136784 113678 118098	5000	365295	369216	i i	377268	381137	385118		412484	416608
475719 478869 482133 485378 488476 491686 530930 533695 536573 539433 542146 544969 586142 588521 591014 593488 595815 598253 641354 643347 645455 647543 649484 651537 696566 698174 699895 701598 703154 704821 751778 753000 754336 756823 758104 806990 807826 808777 809708 810492 811388 862202 862653 863217 869763 864162 864672 917414 917479 917658 917818 917855 917855 972626 972305 971873 971831 971833 1027836 1027132 1026539 1025928 1077807 1138262 1136784 1134038 1134038 1134039 1138262 1136784 1138093 1186178 1144374 1248686 </th <th>10000</th> <th>420507</th> <th>1</th> <th>427692</th> <th>431323</th> <th>434807</th> <th>438402</th> <th>461395</th> <th>465054</th> <th>468820</th>	10000	420507	1	427692	431323	434807	438402	461395	465054	468820
530930 533695 536573 539433 542146 544969 586142 588521 591014 593488 595815 598253 641354 643347 645455 647543 649484 651537 696566 698174 699895 701598 703154 704821 751778 753000 75436 755653 756823 758104 806990 807826 808777 809708 810492 811388 806990 807826 808777 809708 810492 811388 805202 862653 863217 863763 864672 917414 917479 917658 917818 917831 917955 972626 972305 972098 971873 971501 971239 1027836 1027132 1026539 1025928 1025170 1024523 1138764 1136784 113609 1186093 1186178 1184374 1248686 1246437 1242302 124214	15000	475719	i	482133	485378	488476	491686	514322	517623	521033
586142 588521 591014 593488 595815 598253 641354 643347 645455 647543 649484 651537 696566 698174 699895 701598 703154 704821 751778 753000 754336 755653 756823 758104 806990 807826 808777 809708 810492 811388 862202 862653 863217 863763 864162 864672 917414 917479 917658 917818 917831 917955 972626 972305 972098 971873 971501 971239 1027836 1027132 1026539 1025928 1025170 1024523 1083050 1081958 1080980 1079983 1077807 1184374 1138262 1136784 1136432 1244302 1242148 1239847 12309941 1303898 1301263 1353183 1350258 1347186 13609941 144322	20000	530930	:	536573	539433	542146	544969	567249	570193	573245
641354 643455 647543 649484 651537 696566 698174 699895 701598 703154 704821 751778 753000 754336 755653 756823 758104 806990 807826 808777 809708 810492 811388 862202 862653 863217 863763 864162 864672 917414 917479 917658 917831 917955 972626 972305 972698 971501 971501 972627 972628 971501 971501 971501 1027838 1027132 1026539 1025978 1024523 1 1083050 1081958 1080980 1079983 1134036 1131090 1 1133262 1136784 1136432 1244302 1242148 1239847 1230841 1303898 1301263 1298742 1296203 1293517 1290341 1355183 1404313 1400855 1450793 1	25000	586142		591014	593488	595815	598253	620175		625458
696566 698174 698995 701598 703154 704821 751778 753000 754336 755653 756823 758104 806990 807826 808777 809708 810492 811388 8062202 862653 863217 863763 864162 864672 917414 917479 917658 917818 917831 917955 972626 972305 972098 971873 971501 971955 1027838 1027132 1026539 1025928 1025170 1024523 1027836 1026539 1025928 1077807 118809 1193474 1191611 1189861 1134038 1132509 1131090 1193474 1191611 1189861 1188093 1186178 1184374 1303898 1301263 1298742 1296203 1293517 1290941 1359110 1356089 1353183 1350258 1347186 1345059 1469534 1465742 146206	30000	641354		645455		649484		673102	675332	i
751778 753000 754336 755653 756823 758104 806990 807826 808777 809708 810492 811388 862202 862653 863217 863763 864162 864672 917414 917479 917658 917818 917831 917955 972626 972305 972098 971873 971501 971239 1027838 1027132 1026539 1025928 1024523 1024523 1083050 1081958 1080980 1079833 1077807 1184374 1193474 1191611 1189861 1188093 1186178 1184374 1248686 1246437 1244302 1242148 1239847 1237658 1303898 1301263 1298742 1293517 1290941 14144322 14144322 1410916 1407624 1404313 1400855 1397509 1524746 1520568 1570946 156478 1561864 1567093 163051	35000	696566	!	:		703154		726028	3 727901	729883
806990 807826 808777 809708 810492 811388 862202 862653 863217 863763 864162 864672 917414 917479 917658 917818 917831 917955 972626 972305 972098 971873 971501 971239 1027838 1027132 1026539 1025928 1025170 1024523 1083050 1081958 1080980 1079983 1077807 1 1138262 1136784 1135420 1134038 1131090 1 1193474 1191611 1189861 1188093 1186178 1184374 1248686 1246437 1244302 1242148 1239847 1237658 1303898 1301263 1298742 1296203 1293517 1290941 1359110 1356089 1353183 1350258 1346255 1450793 1469534 1465742 1462064 1458368 1454525 1450793 1579958 157094	40000	751778	<u> </u>			756823	758104	778955	780471	782095
862202 862653 863217 863763 864162 864672 917414 917479 917658 917818 917831 917955 972026 972098 971873 971501 971239 1027838 1027132 1026539 1025928 1024523 1 1083050 1081958 1026539 10778839 1077807 1 1138262 1136784 1135420 1134038 1131090 1 1193474 1191611 1189861 118603 1186178 1184374 1 1248686 1246437 1244302 1242148 1239847 1230941 1 1303898 1301263 1298742 1296203 1293517 1290941 1 1414322 1410916 1407624 1404313 1400855 1397509 1 152958 1520568 1516505 1512423 1508194 1504076 1570946 1566478 1561864 1557360 163021 1625386	45000	066908			802608	810492	811388	1	833041	834308
917414 917479 917658 917818 917831 917955 972626 972305 972098 971873 971501 971239 1027838 1027132 1026539 1025928 1024523 1024523 1083050 1081958 1080980 1079983 1077807 1131090 1138262 1136784 1135420 1134038 1131090 1131090 1193474 1191611 1189861 1188093 1186178 1184374 1248686 1246437 1244302 1242148 1239847 1237658 1303898 1301263 1298742 1296203 1293517 1290941 1353110 1356089 1353183 1350258 1347186 1344225 1446352 1410916 1407624 1404313 1400855 1397509 1524746 1520568 1516505 1512423 1508194 1504076 1579958 1570946 1566478 1620533 1610644	20000	862202				864162	864672		3 885610	886520
972626 972305 972098 971873 971501 971239 1027838 1027132 1026539 1025928 1025170 1024523 1 1083050 1081958 1080980 1079983 1078839 1077807 1 1138262 1136784 1135420 1134038 1132509 1131090 1 1193474 1191611 1189861 1188093 1186178 1184374 1 1248686 1246437 1244302 1242148 1239847 1237658 1 1303898 1301263 1298742 1296203 1293517 1290941 1 1359110 1356089 1353183 1350258 1347186 1344225 1462064 1458368 1454525 1450793 1524746 1520568 1516505 1512423 1508194 1504076 157996 1579958 1570946 1566478 1561864 1557360 163633 1616533 1610644 1610644	55000	917414	-	-		917831	917955		5 938180	938733
1027838 1027132 1026539 1025983 1025170 1024523 1 1083050 1081958 1080980 1079983 1078839 1077807 1 1138262 1136784 1135420 1134038 1131090 1 1 1193474 1191611 1189861 1188093 1186178 1184374 1 1248686 1246437 1244302 1242148 1239847 1237658 1 1303898 1301263 1298742 1296203 1293517 1290941 1 1359110 1356089 1353183 1350258 1347186 1344225 1414322 1414322 1410916 1407624 1404313 1400855 1397509 1524746 1508194 1504076 1579958 1570946 1566478 1561864 1557360 163533 1610644 156733 1610644	00009	972626	:				971239		2 990749	990945
1083050 1081958 1080980 1079983 1078839 1077807 1138262 1136784 1135420 1134038 1132509 1131090 1193474 1191611 1189861 1188093 1186178 1184374 1248686 1246437 1244302 1242148 1239847 1237658 1303898 1301263 1298742 1296203 1293517 1290941 1359110 1356089 1353183 1350258 1347186 1344225 1414322 1410916 1407624 1404313 1400855 1397509 1469534 1465742 1512423 1508194 1504076 1579958 157636 156478 1561864 1557360 163531 1610633 1610644 1610644	65000	1027838	}				1024523		3 1043319	1043158
1138262 1136784 1135420 1134038 1132509 1131090 1193474 1191611 1189861 1188093 1186178 1184374 1 1248686 1246437 1242148 1239847 1237658 1 1303898 1301263 1298742 1296203 1293517 1290941 1359110 1356089 1353183 1350258 1347186 1344225 1414322 1410916 1407624 1404313 1400855 1397509 1524746 1520568 1516505 1512423 1508194 1504076 1579958 1575395 1570946 1566478 1561864 1557360 1635770 163027 162538 1610543 1610644	70000	108305		-	_		1077807	!	5 1095888	1095370
1193474 1191611 1189861 1188093 1186178 1184374 1 1248686 1246437 1244302 1242148 1239847 1237658 1 1303898 1301263 1298742 1296203 1293517 1290941 1 1359110 1356089 1353183 1350258 1347186 1344225 1 1414322 1410916 1407624 1404313 1400855 1397509 1 1524746 1520568 1516505 1512423 1508194 1504076 1 1579958 1575395 1570946 1566478 1561864 1557360 163577 1625386 1610533 1610543	75000			1	-	_	1131090	_	2 1148458	1147582
1248686 1246437 1244302 1242148 1239847 1237658 1303898 1301263 1298742 1296203 1293517 1290941 1359110 1356089 1353183 1350258 1347186 1344225 1414322 1410916 1407624 1404313 1400855 1397509 1469534 1465742 1462064 1458368 1454525 1450793 1579958 1570346 156478 1561864 1557360 163027 1625386 1620533 1615533 1610644	80000		1	÷		-	-	-	1201027	1199795
1303898 1301263 1298742 1296203 1293517 1290941 1359110 1356089 1353183 1350258 1347186 1344225 1414322 1410916 1407624 1404313 1400855 1397509 1469534 1465742 1462064 1458368 1454525 1450793 1524746 1520568 1516505 1512423 1508194 1504076 1579958 1576395 1570946 1566478 1561864 1557360 163027 1625386 1620533 1615533 1610644	85000		-		`	_		_	5 1253597	1252007
1359110 1356089 1353183 1350258 1347186 1344225 1414322 1410916 1407624 1404313 1400855 1397509 1469534 1465742 1462064 1458368 1454525 1450793 1524746 1520568 1516505 1512423 1508194 1504076 1579958 1576395 1570946 1566478 1561864 1557360 1636270 1625386 1620533 1615533 1610644	90000	130389		-	_	,	_	130822	1 1306167	1304220
1414322 1410916 1407624 1404313 1400855 1397509 1469534 1465742 1462064 1458368 1454525 1450793 1524746 1520568 1516505 1512423 1508194 1504076 1579958 1575395 1570946 156478 1561864 1557360 1636270 1625386 1626533 1616533 1610644	95000			-		_	_		8 1358736	1356432
1469534 1465742 1462064 1458368 1454525 1450793 1 1524746 1520568 1516505 1512423 1508194 1504076 1 1579958 1575395 1570946 1566478 1561864 1557360 1 1636770 163027 1625386 1620533 1610644 1	100000	1414322		_	_	_	_		5 1411306	1408645
1524746 1520568 1516505 1512423 1508194 1504076 1 1579958 1575395 1570946 1566478 1561864 1557360 1 1636770 163027 1625386 1620533 1616533 1610644 1	105000	1469534		_	-				1 1463875	5 1460857
1579958 1575395 1570946 1566478 1561864 1557360 1 1635170 1630221 1625386 1620533 1615533 1610644 1	110000	1524746		-		_	-		8 1516445	5 1513070
1635170 1630221 1625386 1620533 1615533 1610644	115000	157995		-	_	_	. `	_	5 1569014	
	120000	163517		1625386	3 1620533	· -		—	1 1621584	1617495

	1 min								
	MONTH28	MONTH29	28 MONTH29 MONTH30 MONTH31	MONTH31	MONTH32 MONTH33	MONTH33	MONTH34	MONTH35 MONTH36	MONTH36
Salary:									
5000		: 	428620	432670	436701	440594	444588	448563	452402
10000	1		479762	483454	487129	490663	494301	!	501401
15000	5242	527672	530903	534239	537556	540733	544014	547275	550400
20000	5761	579170	582044	585023	587983	590803	593726	596631	599398
25000	628010	630668	633185	635807	638410	640873	643439	645986	648397
30000	8629	682167	684326	686591	688837	690943	693152	695342	697396
35000		733665	735468	737375	739264	741013	742865	744698	746395
40000	:	785163	786609	788159	789691	791083	792578	794054	795393
45000	:	836662	837750	838943	840118	841153	842291	843410	844392
50000	8872	888160	888891	889728	890545	891223	892004	892766	893391
55000	9391	939658	! !	940512	940972	941293	:	:	:
00009	5066	:	991174	991296	991399	991363	991430	991477	
65000	1042853	1042655	1042315	1042080	1041826	1041433	1041143	1040833	1040387
70000	1094708	1094153	1093456	1092864	1092253	1091503	1090855	F	1089386
75000	-	1145651	1144597	1143648	1142680	1141573	1140568	1139545	1138384
80000	1198419	1197150	1195739	1194432	1193107	1191643	1190281	1188900	1187383
85000	1250274	1248648	1246880	1245217	1243534	1241713		1238256	1236382
90000		1300146	1298021	1296001	1293962	1291783	1289707	1287612	1285381
95000	1353985	1351645	1349162	1346785		1341853	1339420	1336968	1334379
100000		1403143	1400304	1397569	1394816	1391923	1389133	1386324	1383378
105000		1454641	1451445	1448353	1445243	1441993	1438846	1435680	1432377
110000	1509551	1506140	-	1499137		1492063	1488559	1485035	1481376
115000		1557638	1553727	1549922	1546097	1542133	1538272	1534391	1530374
120000	1613262	1609136	1604869	1600706	1596524	1592203	1587984	1583747	1579373

	MONTH37	MONTH38	MONTH39 MONTH40	MONTH40	MONTH41	MONTH42	MONTH43	MONTH44	MONTH45
Salary:			!						10000
2000	469432	-	477202	481003	484786	488665	492412		499965
10000	518100	!	525209	528679	532132	535680	539097	542607	545988
15000	566768	569943	573216	576356	579477	582695	585781	588961	592011
20000	615436	618281	621223	624032	626823	629710	632465	635315	638034
25000	664104	666618	669230	671708	674169	676725	679150	681668	684057
30000	712773	714956	717237	719384	721514	723740	725834	728022	730080
35000	761441	763293	765244	767060	768860	770755	772518	774376	776104
40000	810109	811631	813250	814737	816205	817769	819202	820729	822127
45000		829968	861257	862413	863551	864784			868150
20000		908306	909264	910089	910896	911799	912571	913437	914173
55000		956643	957271	957765	958242	958814	959255	959790	960196
00009	:	1004981	1005278	1005441	1005588	1005829	1005940	1006144	1006219
65000	i	1053318	1053285	1053118	1052933	1052844	1052624	1052498	1052242
70000	!	Ì	1101291	1100794	1100279	1099859	1099308	1098851	1098265
75000		1149993	1149298	1148470	1147624	1146874		3 1145205	_
80000		1198330	1197305	1196146	1194970	1193889	1192677	_	1190311
85000		1246668	1245312	1243823	1242316		1239361	1237912	1236334
90000		1295005	1293319	1291499	1289661	1287919		3 1284266	1282357
95000	į į	1343343	1341326	1339175		1334934	1332730	1330620	1328380
100000	1394126	3 1391680	1389333	1386851	1384352	1381949	1379414	1376974	1374403
105000	1442794		1437339	1434527	1431698		1426099	1423327	1420426
110000	1491462	1488355	1485346	1482204	1479043	1475979	9 1472783	3 1469681	1466449
115000	1540130	0 1536693	3 1533353	1529880		1522994	1519467	7 1516035	
120000	1588798	1585030	1581360	1577556	5 1573735	5 1570009	1566152	2 1562388	1558495

	:					A man of the state			
	MONTH46	MONTH47	MONTH48	MONTH49	MONTH50	MONTH51	MONTH52	MONTH53	MONTH54
Salary:									
2000	503659	507445	511104	514670	518113	521645	525055	528552	531929
10000	549352	552807	556135	559395	562532	565758	568861	572053	575123
15000	595044	598169	601166	604120	606951	609871	612668	615553	618317
20000	640737	643530	646197	648846	651370	653983	656475	:	661512
25000	686429	688892	691228	693571	692789	960869	700281	702554	704706
30000	732122	734254	736259	738296	740207	742209	744088	746055	747900
35000	:	779616	781291	783021	784626	786322	787894	789555	791095
40000	!	824978	826322	827746	829045	830434	831701	833056	
45000	;	1		872471	873464	874547	875508	876556	877483
20000	!	915701	916384	917196	917883	918660	919314	920057	920678
55000	i .	961063	961415	961921	962302	962773	963121	963557	
00009	<u> </u>		1006446	1006646	1006721	1006885	1006927	1007058	1007066
65000	1	1051787	1051478	1051371	1051140	1050998	1050734	1050558	1050261
70000	i`		1096509	1096096		1095111	1094541	1094058	1093455
75000		1142510	1141540	1140821	1139977	1139224	1138347	1137559	1136649
80000	1189046	1187872	1186571	1185546	1184396		1182154	1181059	1179844
85000	1234738	1233234	1231602	1230271	1228815	1227449	1225960	1224560	1223038
90000	i .	1278596	1276633	1274996	_	_			1266232
95000	1326123	1323957	1321665	1319721	1317653	1315675	1313574	1311561	1309427
100000	1371816	1369319	1366696	1364446	1362072	1359787		135506	1352621
105000	1417508	1414681	1411727	1409171	1406491	1403900	1401187	1398562	1395815
110000	1463200	1460043		1453896	1450910	1448013	1444993	1442062	1439010
115000		1505405	1501789	1498621	1495328	1492126	1488800	1485563	3 1482204
120000	1554585	1550766	1546820	1543346	1539747	1536238	1532607	1529063	1525398

1	MONTHS5	MONTH56	MONTH57	MONTH58	MONTH59	MONTH60
Salary:						
0003	535392	538638	542164	545575	548968	552245
10000	578280	1	584440	587545	590632	593602
1,5000	621168	624002	626716	629514	632296	634960
20000		i		671484	673959	676317
26,000	i	709166		713454	715623	717675
30000	749833	751748	753543	755424	757286	
35000	792721	794330	795819	797394	798950	
40000	835609	836912	838095	839363	840614	841747
45000	878497	879494	880371	881333	882277	883105
50000	:	:			923941	924462
55000	964274	964658	964923		965605	
00009	i	1007240	1007199	1007242	1007268	-
65000		1049622	1049475		1048932	1048535
70000		1092404	1091751	1091182		108
75000		-	1134027	<u> </u>	Έ.	
80000		1177568				117
85000		1220150				1
00006	1264491	1262732	1260854		1257250	_
95000	1307379	1305314	1303130	1301031	1298914	
100000	1	1347896		1343000		<u>e</u>
105000	1393156	1390478		1384970		
110000	1436044	1433060	1429958	1426940	1423904	1420752
115000	-	_	-	1468910	1465568	
120000	1521820	1518225	151451	0 1510880	1507232	1503467

	Overall Ea	Earnings if F	Retire at 15 years n Months;	years n M		discount r	rate, and v.	.12 discount rate, and various civilian pay.	ian pay.	
	Discount 1	nt rate =.12								
	MONTHO	0 MONTH1	MONTH2 MONTH3	MONTH3	MONTH4	MONTH5	MONTH6	MONTH7	MONTH8	MONTH9
Salary:									-	
2000	202440	206444	210431	214399	218350	222282	226196	229167	233971	237832
10000	248204	251792	255362	258914	262448	265964	269462	272016	276404	279848
15000	293969	297140	300294	303429	306547	309646	312727	314865	318836	321864
20000	339733	342488	345225	347944	350645	353328	355993	357714	361269	363880
25000	385498	387836	390157	392459	394744	397010	399258	400563	403701	405896
30000	431263	433184	435088	436974	438842	440692	442524	443412	446134	447912
35000	477027	478532	480020	481489	482941	484374	485789	486261	488566	489928
40000	522792	523880	524951	526004	527039	528056	529055	529110	530999	531944
45000	568556	569228	569883	570519	571138	571738	572320	571959	573431	573960
50000	614321	614576	614814	615034	615236	615420			:	615976
55000	660085	659924	659746	659549	659335	659102	658852	657657		657992
00009	705850	705272	704677	704064	703433	702784	702117	700506	700729	700008
65000	751614	750620	749609	748579	747532	746466	745383	743355	743161	742024
70000	797379	795968	794540	793094	791630	790148	788648	786204	785594	784040
75000	!	841317	839472	837609	835729	833830	!		828026	826056
80000	1	886665	884403	882124	879827	877512	875179		870459	868072
85000	934672	932013	929335	926639	923926	921194		914751	912891	910088
90000	İ	977361	974266	971154	968024	964876	961710	957600	955324	952104
95000	1026201	1022709	1019198	1015669	1012123	1008558	1004976	1000449	997756	994120
100000	1071966	1068057	1064129	1060184	1056221	1052240	1048241	1043298	1040189	1036136
105000	1117730	1113405	1109061	1104699	1100320	1095922	1091507	1086147	1082621	1078152
110000	1163495	1158753	1153992	1149214	1144418	1139604	1134772	1128996	1125054	1120168
115000	1209259	1204101	1198924	1193729	1188517	1183286	1178038	1171845	1167486	1162184
120000	1255024	1249449	1243855	1238244	1232615	1226968	1221303	1214694	1209919	1204200

	MONTH10	MONTH11	MONTH12	MONTH13	MONTH14	MONTH15	MONTH16	MONTH17	MONTH18
Salary:									
2000	241674	245498	249305	259336	262890	266524	270045	273644	277133
10000	283274	286681	290071	299730	302913	306175	309324	312551	315668
15000	324873	327864	330838	340125	342936	345826	348603	351458	354203
20000	<u> </u>	369047	371604	380519	382958	385476	387882	390366	392738
25000	408072	410231	412371	420914	422981	425127	427161	429273	431274
30000		451414	453137	461309	463004	464778	466440	468180	469809
35000]	492597	493904	501703	503027	504429	505719	507087	508344
40000	İ	533780	534670	542098	543049	544080	544998	545994	546880
45000	574470	574963	575437	582493	583072	583731	584277	584901	585415
50000	<u> </u>	616146	616203	622887	623095	623382	623556	623808	623950
55000		657329	656970	663282	663118	663033	662835	662716	662485
00009		698512	697736	703676	703140	702684	702114	701623	701021
65000		739695	738503	744071	743163	742334	741393	740530	739556
70000		780878	779269	784466	783186	781985	780672	779437	778091
75000		822061	820036	824860	823209	821636	819951	818344	816626
80000	<u> </u>	863244	860803	865255	863231	861287	859230	857251	855162
85000	907266	904427	901569	905650	903254	80006	898509	9 896158	893697
00006		945610	942336	946044	943277	940589	 	3 935065	932232
92000		986793	983102	986439	983300	980240	977067	973973	1 970767
100000		1027976	1023869	1026834	1023323	1019891	1016346	3 1012880	1009303
105000		1069159	1064635	1067228	1063345	1059541	1055625	5 1051787	1047838
110000			1105402		1103368	1099192	. —	1090694	1086373
115000		1151525	5 1146168	1148017	1143391	1138843	1134184	1129601	1124908
120000		1192708	3 1186935	1188412	1183414	1178494	1173463	3 1168508	1163444

MONTH19 MONTH20 MONTH21 MONTH22 MONTH23 MONTH26 MONTH36 MONTH36 MONTH36 MONTH36 MONTH36 MONTH36 MONTH36 MONTH36 MONTH26 MONTH36 MONTH MON										
280697 284152 287681 291193 294588 298075 314669 318084 318860 321944 325101 328241 334379 350640 353724 357024 359735 362521 365288 367960 370683 386612 389364 433350 435876 365867 40628 406987 425664 425064 433350 435876 436940 476432 477978 479595 496284 466644 471514 47310 476432 477978 479595 49628 496284 650677 510901 512199 513479 514654 515899 530500 531924 66231 662467 56057 561329 552203 566472 567564 66231 662468 66167 661357 661116 67484 603204 66231 662467 66187 77681 771386 770027 782304 771014 77681 77681 <t< th=""><th></th><th>1</th><th>_</th><th>MONTH21</th><th></th><th>MONTH23</th><th>MONTH24</th><th>-</th><th>MONTH26</th><th>MONTH27</th></t<>		1	_	MONTH21		MONTH23	MONTH24	-	MONTH26	MONTH27
280697 284162 287681 294189 294698 298075 314669 318084 318860 321944 325101 328241 334379 336704 353724 357024 3251024 325101 328241 334379 350640 353724 395187 395727 396940 402386 406987 422584 425004 433350 435318 437360 439384 441302 443291 458656 460644 477514 47310 51219 51329 47956 496284 4506642 450642 550647 56764 509677 510901 51219 51749 5174654 552203 566472 56764 548604 58604 58604 586472 56764 567564 56764 567564 56067 56187 66187 661878 661670 661357 661466 66446 603204 662331 662067 661878 661670 661357 661116	Salary:			:						
357024 325104 325101 328241 331274 334379 350640 353724 357024 35935 365281 365288 367950 370683 386612 389364 395187 39527 389340 402336 404626 406987 422584 425004 433350 435518 437360 439384 441302 443259 45856 460644 471514 473110 444780 477978 47956 494528 496284 509677 510901 512199 513479 514654 51589 530500 531924 569677 510901 512199 513479 514654 567620 567644 603204 662476 548693 580527 551329 55050 567644 603844 662331 662067 661878 661670 661357 661116 674388 674484 700494 699859 699297 69803 696439 775681 775681 77564	2000	280697	284152		291193	294598	298075			321569
357024 359735 362521 365288 367950 370683 386612 389364 395187 397527 399940 402336 404626 405987 422584 425004 433350 435318 437360 439384 441302 445291 458556 460644 471514 473110 474780 476422 477978 478595 494528 460644 509677 510901 512199 513479 514654 515899 530500 531924 569677 548693 549619 550527 551329 550500 531924 560004 586484 587039 587575 588005 586472 567564 56004 586484 587039 587575 588005 588416 603204 6624167 624468 661670 661878 661670 661878 661670 71022 71022 71022 700494 689859 699597 661878 661670 77002 746332 </th <th>10000</th> <th>318860</th> <th>321944</th> <th>:</th> <th>328241</th> <th>331274</th> <th>334379</th> <th>350640</th> <th>353724</th> <th>356877</th>	10000	318860	321944	:	328241	331274	334379	350640	353724	356877
395187 397527 399940 402336 404626 406987 425846 425004 433350 435318 437360 439384 441302 443291 458556 460644 471514 473110 474780 476432 477978 479595 494528 460644 509677 510901 512199 513479 51329 552203 566472 567564 586004 586484 587039 587575 588005 588507 602444 603204 662331 662067 661878 661670 661357 66115 67438 674484 700494 699859 699297 698718 698033 697419 71024 776821 7776821 777027 78576 734709 73750 745764 814984 813233 811556 809861 808061 806331 818276 81404 82344 86008 688039 52203 564319 77022 776821	15000	357024	359735	i	365288	367950	370683	386612	389364	392185
433350 435318 437360 439384 441302 443291 45856 460644 471514 473110 474780 476432 477978 479595 494528 496284 509677 510901 512199 513479 51329 530500 531924 509677 510901 512199 51329 55203 566472 567564 586004 586484 58703 587575 588005 588507 602444 603204 6624167 662467 661878 661670 661357 661115 674384 603204 662331 662067 661878 661670 661357 661115 674384 674484 700494 699859 699297 698718 698033 697419 710324 776821 775442 7771385 770027 782304 781404 8149867 866396 898363 894737 74632 745764 776814 775442 777143 77248	20000	395187	397527	399940		404626	406987	422584		427493
471514 473110 474780 476432 477978 479595 494528 496284 509677 510901 512199 513479 514654 515899 530500 531924 509677 510901 512199 513479 514654 515899 530500 531924 54776 586484 587039 587575 588005 588507 602444 603204 6224167 624766 624458 624623 624617 66187 6	25000	433350	435318	437360		441302	443291			462801
509677 510901 512199 513479 514654 515899 530500 531924 547840 548693 549619 550527 551329 552203 566472 567564 586004 586484 587039 587575 588005 588507 602444 603204 6224167 624276 624681 624681 624811 638416 603204 662331 662706 661878 661670 661357 661115 67438 674484 700494 699859 699297 698718 699033 697419 710360 710124 776821 773650 736717 772814 771385 770027 782304 781404 814984 813233 811556 846909 844737 842636 88324 853148 851025 846909 844737 842635 88324 883131 888816 886396 883957 881412 878939 890220 888324 896763	30000	471514	473110			477978	479595			498109
547840 548693 549619 550527 551329 552203 566472 567564 586004 586484 587675 588005 588507 602444 603204 6224167 622476 624458 624623 624681 624811 638416 603204 662331 662067 661878 661670 661357 661115 67438 674484 700494 699859 699297 698718 698033 697419 710360 710124 776821 775442 774137 772814 771385 770027 782304 781404 814984 813233 811556 809861 808061 806331 818276 817044 853148 851025 846976 846909 844737 878939 890220 888324 891311 888816 886396 883957 881412 878939 890220 958634 967638 964399 961235 958052 954764 951547 9621	35000	509677	510901			:	515899		!	533417
586004 586484 587039 587575 588005 588507 602444 603204 624167 624276 624458 624681 624811 638416 638844 662331 662067 661878 661670 661357 661115 674388 674484 700494 699859 699297 698718 661670 734709 733723 746332 745764 776821 775442 774137 772814 771385 770027 782304 781404 814984 813233 811556 809861 80661 806331 818276 817044 853148 851025 848976 846909 844737 842635 852648 852684 891311 888816 886396 883957 881412 878939 890220 888324 995474 926608 923815 921005 91400 987851 96136 952363 1005801 1005804 10027191 998654 995140 987	40000	547840	548693			551329	552203			568725
624167 624276 624458 624623 624681 624811 638416 638844 662331 662067 661878 661670 661357 661115 674388 6748484 700494 699859 699297 698718 698033 697419 710360 710124 73651 73671 735766 734709 73723 746332 745764 776821 775442 777134 771385 770027 782304 781404 814984 813233 811556 809861 808061 806331 818276 817044 853148 851025 848976 846909 844737 842635 852684 891311 888816 886396 883957 881412 878939 890220 888324 95608 95805 95805 95805 954764 951547 962164 959603 1005801 1005902 1034764 951547 962164 955003 1005804 1039982 <th>45000</th> <th>5860</th> <th>586484</th> <th>587039</th> <th></th> <th>588005</th> <th>588507</th> <th>602444</th> <th>1</th> <th>604032</th>	45000	5860	586484	587039		588005	588507	602444	1	604032
662331 662067 661878 661670 661357 661115 674388 674484 700494 699859 699297 698718 698033 697419 710360 710124 700494 699859 699297 698718 698033 697419 710360 710124 738657 737650 774137 772814 771385 770027 782304 781404 814984 813233 811556 809861 808061 806331 818276 817044 853148 851025 848976 846909 844737 842635 854248 852684 891311 888816 886396 883957 881412 878939 890220 888324 929474 926608 923815 921005 91440 961547 962164 958603 967638 964399 961235 958052 954764 951547 962164 958603 1005801 1002191 998654 995100 991440 987	20000	6241	624276		624623	624681			:	639340
700494 699859 699297 698718 698033 697419 710360 710124 738657 737650 736717 735766 734709 733723 746332 745764 776821 775442 774137 772814 771385 770027 782304 781404 814984 813233 811556 809861 808061 806331 818276 817044 853148 851025 848976 846909 844737 842635 8524248 852684 891311 888816 886396 883957 881412 878939 890220 888324 929474 926608 923815 921005 918088 915243 926192 923963 967638 964399 961235 958052 954764 951547 962164 959603 1005801 1002191 998654 995100 991440 987851 998136 1036074 1032148 102816 1060459 1070080 1066523	55000	!		661878	661670	!	:			
738657 737550 736717 735766 734709 733723 746332 745764 776821 775442 774137 772814 771385 770027 782304 781404 814984 813233 811556 809861 808061 806331 818276 817044 853148 851025 848976 846909 844737 878939 852684 891311 888816 886396 883957 881412 878939 890220 888324 929474 926008 923815 921005 918088 915243 926192 923963 967638 964399 961235 958052 954764 951547 96154 95164 1005801 1005801 1002191 998654 995100 991440 987851 998136 995243 1043964 1032148 1028116 1024165 1070080 1066523 1120291 1115845 11060459 11070080 1102163 1158455	00009			699297			697419		:	709956
776821 775442 774137 772814 771385 770027 782304 781404 814984 813233 811556 809861 808061 806331 818276 817044 851498 815025 848976 846909 844737 842635 852684 852684 891311 888816 886396 883957 881412 878939 890220 888324 929474 926608 923815 921005 918088 915243 926192 923963 967638 964399 961235 958052 954764 951547 962164 959603 1005801 1002191 998654 995100 991440 987851 998136 995243 1043964 1032148 1028116 1024165 1070080 1066523 1120291 1115565 1110913 1106244 110468 1060459 11070080 1102163 1158455 1158455 1143291 1138144 1133067 1137803	65000	i		:			733723	i ;	:	745264
814984 813233 811556 809861 808061 806331 818276 817044 853148 851025 848976 846909 844737 842635 854248 852684 891311 888816 886396 883957 881412 878939 890220 888324 929474 926608 923815 921005 918088 915243 926192 923963 967638 964399 961235 958052 954764 951547 962164 95903 1005801 1002191 998654 995140 991440 987851 998136 995243 1043964 1032148 1028116 1024155 1034108 1030883 1 1120291 1115565 1110913 1106244 1101468 1096763 1106052 1102163 1158455 1158455 1143291 1138144 1133067 1137803 1137803	70000		İ	:			770027		i :	780572
853148 851025 848976 846909 844737 842635 854248 852684 891311 888816 886396 883957 881412 878939 890220 888324 929474 926008 923815 921005 918088 915243 926192 923963 967638 964399 961235 958052 954764 951547 962164 959603 1005801 1002191 998654 995100 991440 987851 998136 995243 1043964 103982 103674 1028116 1024155 1034108 1030883 1120291 1115565 1110913 1106244 1101468 1096763 1106052 1102163 1158455 1153367 1148333 1143291 1138144 1133067 1137803	75000			1		808061	806331	818276		!
891311 888816 886396 883957 881412 878939 890220 888324 929474 926608 923815 921005 918088 915243 926192 923963 967638 964399 961235 958052 954764 951547 962164 959603 1005801 1002191 998654 995100 991440 987851 998136 95243 1043964 1032148 1028116 1024155 1034108 1030883 1082128 1077774 1073494 1069196 1064792 1060459 1070080 1066523 1120291 1115565 1110913 1104624 1101468 1096763 1102163 1102163 1158455 1153367 1148333 1143291 1138144 1133067 1137803 137803	80000		İ	848976		<u> </u>				851188
929474 926608 923815 921005 918088 915243 926192 923963 967638 964399 961235 958052 954764 951547 962164 959603 1005801 1002191 998654 995100 991440 987851 998136 995243 1043964 1039982 1036074 1032148 1028116 1024155 1034108 1030883 1066523 1120291 1115565 1110913 1106244 1101468 1096763 1106052 1102163 1158455 1153357 1148333 1143291 1138144 1133067 1142024 1137803	85000		! 	886396		881412	878939	:		886496
967638 964399 961235 958052 954764 951547 962164 959603 1005801 1002191 998654 995100 991440 987851 998136 995243 1043964 1039862 1036074 1032148 1028116 1024155 1034108 1030883 1 1082128 1077774 1073494 1069196 1064792 1060459 1070080 1066523 1 1120291 1115565 1110913 1106244 113144 1133067 1142024 1137803 1	90000	!	İ							:
1005801 1002191 998654 995100 991440 987851 998136 995243 1043964 1036074 1032148 1028116 1024155 1034108 1030883 1030883 1082128 1077774 1073494 1069196 1064792 1060459 1070080 1066523 1102163 1120291 1115565 1110913 1106244 1101468 1096763 1106052 1102163 1107163 1158455 1153357 1148333 1143291 1138144 1133067 1142024 1137803 1	95000		Ĺ				:			957112
1043964 1039982 103674 1032148 1028116 1024155 1034108 1030883 1082128 1077774 1073494 1069196 1064792 1060459 1070080 1066523 1 1120291 1115565 1110913 1106244 1101468 1096763 1106052 1102163 1 1158455 1153357 1148333 1143291 1138144 1133067 1142024 1137803 1	100000	1005801	1002191	1		:		998136	_	992420
1082128 1077774 1073494 1069196 1064792 1060459 1070080 1066523 1120291 1115565 1110913 1106244 1101468 1096763 1106052 1102163 1158455 1153357 1148333 1143291 1138144 1133067 1142024 1137803	105000	1043964		1036074	-	· —	· ~	· 	_	1027727
1120291 1115565 1110913 1106244 1101468 1096763 1106052 1102163 1158455 1153357 1148333 1143291 1138144 1133067 1142024 1137803	110000	1082128		1073494	_		_	· •	_	1063035
1158455 1153357 1148333 1143291 1138144 1133067 1142024 1137803	115000	1120291	1115565					_	-	1098343
	120000	11584		1148333			_			1133651

	MONTH28	MONTH29	MONTH30 MONTH31	MONTH31	MONTH32	MONTH33	MONTH34	MONTH35	MONTH36
Salary:									
\$000	324952	328403	331753	335169	338568	341869	345234	348580	351832
10000	359928	363047	366065	369149	372216	375185	378217	381232	384152
15000	394904	397690	400377	403129	405864	408501	411201	413884	416471
20000	429880	432334	434689	437109	439511	441816	444185		448791
25000	464856	466978	469001	471089	473159	475132	477168		481111
30000	499832	501622	503312	505068	506807	508448	510152	:	
35000	534808	536266	537624	539048	540455	541764	543136	544490	545750
40000	569784	570910	571936	573028	574102	575079	576119	577142	578069
45000	604759	605554	606248	607008	607750	608395	609103	!	
20000	639735	640197	640560	640988	641398	641711	642087	642445	642709
55000	674711	674841	674871	674967	675046		675070	675097	
90009	709687	709485	709183	708947	708693		708054	1 707749	707348
65000	744663	744129	743495	742927	742341	741658	741038	3 740400	ļ
70000	779639	778773	777807	776907	775989	774974	774022	773052	
75000	814615	813417	812119	810887	809637		807005		804307
80000	849591	848061	846431	844866	843284	841605	839989	838355	836626
85000	88456	882704	880742	878846	876932	874921	872973		868946
00006	919542	917348	915054	912826	910580		902956	903659	
95000	95451	3 951992	949366	946806				936310	933585
100000	989494	986636	983678	980785	5 977875	974868	3 971924		965905
105000	102447	1021280	1017990	1014765	5 1011523	3 1008184	1004907	7 1001614	
110000	105944	6 1055924	1052302		5 104517	1041499	103789	1 1034265	5 1030544
115000	109442	1090568	3 1086613	3 1082725	5 1078819	9 1074815	5 1070875	5 1066917	
120000	112939	112521	1120925	1116705	5 1112467	110813	1103859	9 1099569	9 1095184

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	MONTH37	37 MONTH38 MONTH39 MONTH40 MONTH41	MONTH39	MONTH40	MONTH41	MONTH42	MONTH43	MONTH44	MONTH45
Salary:					707020	700070	Coccoc	205.400	200544
2000	363672		866695		3/0104	37.9327	302300	303490	448463
10000	395695		401428	404232	40/021	409868	412625	410436	410103
15000	427718	430258	432858	435366	437859	440409	442869	445386	447814
20000	459741	461985	464288	466500	468696	470950	473114	475334	477466
25000	4917	493712	495719	497634	499533	501491	503358	505282	507117
30000	5237	525438	527149	528768	530371	532031	533603	535230	536769
35000	5558	557165	558579	559901	561208	562572	563847	565178	566420
40000	!	588892	590009	591035	592045	593113	594091	595126	596072
45000	1	620619	621440	622169	622883	623654	624336	625074	
20000	6518	652345	652870	653303	653720	654195	654580	655022	655375
55000	6835	684072	684300	684437	684558	684736	684825	684970	685027
00009	7159	715799	715731	715571	715395	715277	715069	714918	
65000	7479	747525	747161	746704	746232	745818	745314	744866	744330
70000	7799	779252	778591	777838	777070	776359	775558	774814	
75000	8118	810979	810021	808972	807907	006908	805802	:	
80000		842706	841452	840106	838744	837440	836047	834710	833284
85000		874432	872882	871240	869582	867981	866291	864658	
00006	990806	906159	904312	902373	900419	898522	896536	894606	
95000	940089	937886	935742	933507	931256	929063	926780	· -	
100000	972112	969612	967173	964641	962094	959604	957025	954502	
105000	1004135	1001339	998603	995775	992931	990145	987269	984450	
110000	1036158	1033066	1030033	1026909	1023768	1020686	1017514	1014398	
115000		1064793	1061463	1058042		1051227			
120000	1100205	1096519	1092894	1089176	1085443	1081768	1078002	1074294	1070496

	MONTH46	MONTH47	MONTH48	MONTH49	MONTH50	MONTH51	MONTH52	MONTH49 MONTH50 MONTH51 MONTH52 MONTH53 MONTH54	MONTH54
Salary:									
2000	391517	394577	397550	400341	403049	405810	408489	411220	413871
10000	420872	423635	426312	428839	431282	433778	436192	438659	441045
15000	450227	452694	455075	457336	459514	461746	463896	466098	468219
20000	479582	481752	483837	485834	487747	489714	491599	493536	495393
25000	508937	510811	512599	514331	515980	517682	519303	520975	522567
30000	538292	539870	541361	542828	544213	545650	547006	548414	549741
35000	567647	568928	570123	571326	572446	573618	574709	575852	576915
40000	597002	597987	598885	599823	600678	601586	602413	603291	604089
45000	626357	627046	627648	628321	628911	629555	630116	630730	631263
20000	655713	656104	656410	656818	657144	657523	657820	658168	658437
55000	685068	685163	685172	685316	685377	685491	685523	685607	685611
00009	714423		713934	713813	713609	713459	713226	713046	712785
65000	743778	743280	742696	742311	741842	741427	740930	740484	739959
70000	773133	772339	771458	770808	770075	769395	768633	767923	767133
75000		801397	800220	799306	798308	797363	796336	795362	794307
80000		830456	828983	827803	826540	825331	ļ 	822801	821481
85000		859514	857745	856301	854773	853299	851743	1	1
00006	890553	888573	886507	884798	883006	881267	879447	877678	875829
95000		917632	915269	913295	911239	909235	907150		903003
100000	949263	946690	944031	941793	939472	937203	934853	932555	930177
105000	978618	975749	972793	970290	967704		962557	959994	95735
10000	1007973	1004808	1001556		995937	1	990260	987433	984525
115000	1037328	1033866	1030318	1027285	1024170	1021108	1017964	1 1014871	1011699
120000	1066683	1062925	1059080	1055783	1052403	1049076	1045667	1042310	1038873

			AND AN ADDRESS OF LANDING WALLANDS	and the second s		
	MONTH55	MONTH56	MONTH57	MONTH58	MONTH59	MONTH60
Salary:						
2000	416572	419258	421865	424522	427162	429727
10000	443481	445903	448245	450637	453013	455312
15000	470391	472547	474625	476752	478863	480898
20000	497300	499192	501005	502867	504714	506484
25000	524209	525836	527385	528982	530565	532070
30000	551119	552481	553765	555098	556415	557656
35000	578028	579126	580145	581213	582266	583242
40000	604937	605770	606525	607328	608116	608827
45000	631846	632415	632905	633443	633967	634413
50000	658756	659060	659285	659559	659817	626639
55000	685665	685704	685665	685674		
90000	712574	712349	712045	711789	711518	!
65000	739484	738993	738424	737904	737369	736757
70000	766393	765638	764804	764019	763219	
75000	793302	792283	791184	790135	789070	787928
80000	820212	818927	817564	816250	814920	813514
85000	847121	845572	843944	842365	!	
00006	874030	872216	870324	868480	866621	864686
95000	900940	898861	896704	894596	892472	890272
100000	927849	925506	923084	<u> </u>		:
105000	954758	952150	949464	ļ	944173	941443
110000	981667	978795	975844	972941	970024	967029
115000	1008577	1005439	_	: 	:	992615
120000		1032084	1028604	1025172	1021725	1018201

APPENDIX D

DECISION MATRIX EXAMPLE I

Career	Risk	Safety/	: -
Satisfaction	Aversion	Security	
			Sum
(9)9	1(1)	1(6)	<u>ج</u>
5(5)	2(2)	2(12)	32
4(4)	3(3)	3(18)	37
3(3)	4(4)	4(24)	9
2(2)	5(5)	5(30)	4
1(1)	(9)9	6(36)	42
	Satisfaction 6(6) 5(5) 4(4) 3(3) 2(2) 1(1)	sfaction	sfaction Aversion 1(1) 2(2) 3(3) 4(4) 5(5) 6(6)

DECISION MATRIX EXAMPLE II

Weights 4	4	1	1	1	
Criteria		Career	Risk	Safety/	
	Pay	Satisfaction	Aversion	Security	
Strategies					Sum
Retire at 15YOS	6(24)	1(1)	1(1)	1(1)	27
Retire at 16YOS	5(20)	2(2)	2(2)	2(2)	26
Retire at 17YOS	4(16)	3(3)	3(3)	3(3)	25
Retire at 18YOS	3(12)	4(4)	4(4)	4(4)	24
Retire at 19YOS	2(8)	5(5)	5(5)	5(5)	23
Retire at 20YOS	1(4)	(9)9	(9)9	(9)9	22
* Pay results are for assumed .04 discount rate and \$50,000 civilian pay	o. pewns	4 discount rate	and \$50,000 civ	rilian pay	
** 6/24) indicates 6 multipled by its weight of 4. equals 24	tipied by	its weight of 4.	equals 24		

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